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WEEKLY WEATHER AND CROP BULLETIN

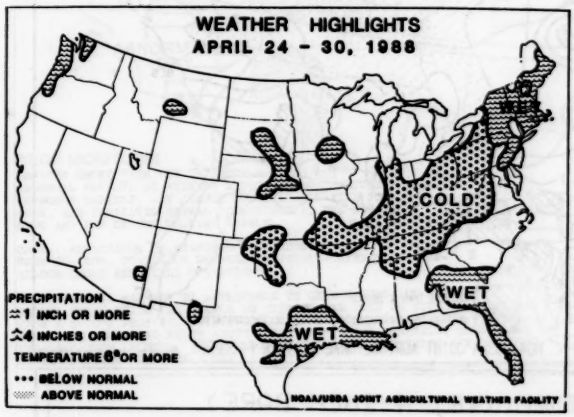
U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration, National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service and World Agricultural Outlook Board

Volume 75, No. 18 | Washington, D.C. | May 3, 1988

National Weather Summary

April 24-30, 1988



HIGHLIGHTS: Rain eased dryness along the northern Pacific coast, in the western Corn Belt, southeastern Texas, southern Atlantic Coast States, and New England. Unseasonable cold weather persisted in the eastern Corn Belt. A late-season storm brought snow to the northern Plains early in the week.

SUNDAY...Showers and thunderstorms developed ahead of a cold front moving eastward through the Atlantic Coast States. Temperatures were in the forties over much of the area from New England to the lower Ohio Valley, with thirties in western New York and western Pennsylvania. Rain was mixed with snow in the northern Appalachians. A low-pressure system developed over Texas and Oklahoma, producing strong winds, blowing dust, and severe thunderstorms. Rain showers, with snow in mountainous areas, extended from the northern Pacific coast to the northern Rockies. Strong gusty northwesterly winds ushered cold air into the northern Plains.

MONDAY...Severe thunderstorms moved across Mississippi, Alabama, Georgia, and Florida. Showers and thunderstorms also developed along and ahead of a cold front pushing southeastward across the middle Mississippi Valley and the central Plains. Snow fell in Montana, Wyoming, and South Dakota.

TUESDAY...A deepening low-pressure area centered over central Iowa spread wet snow across southern Minnesota and northwestern Iowa. More than a foot of snow was left on the ground in parts of South Dakota. Rain fell in eastern Iowa and extended into Wisconsin and Illinois. Strong northwesterly winds continued the advection of cold air into the central United States. Relatively sunny skies and warm weather prevailed in Texas and the middle Mississippi Valley.

WEDNESDAY...A storm system centered over lower Michigan made a cold, wet, blustery day in the Great Lakes region. Showers and thunderstorms occurred ahead of a cold front extending from New York across Pennsylvania to Virginia. Thunderstorms were scattered across southern Florida. Showers and thunderstorms also developed in Oregon and Washington.

THURSDAY...The storm system over the eastern Great Lakes weakened. Rain was prevalent from Ohio to the middle Atlantic region and New England. Wet snow was at higher elevations in Pennsylvania and West Virginia. Showers and thunderstorms were widespread over New England. Rain spread across much of the Ohio Valley, with wet snow extended across mountain areas of Pennsylvania. Rain showers were scattered over coastal areas of Washington and Oregon.

FRIDAY...Showers and thunderstorms were scattered across the central and southern Great Plains. Tornadoes, heavy rain, and hail accompanied thunderstorms over central and southeastern Texas. Rain showers extended across the northeastern States and the Pacific Northwest. Clear and chilly weather prevailed over the north-central United States.

SATURDAY...A cold frontal system pushing across the western United States produced high winds in the Southwest. Scattered showers and thunderstorms with locally heavy rain covered the lower Mississippi Valley along the gulf coast to Florida. Showers continued along the northern Pacific coast and over New England.

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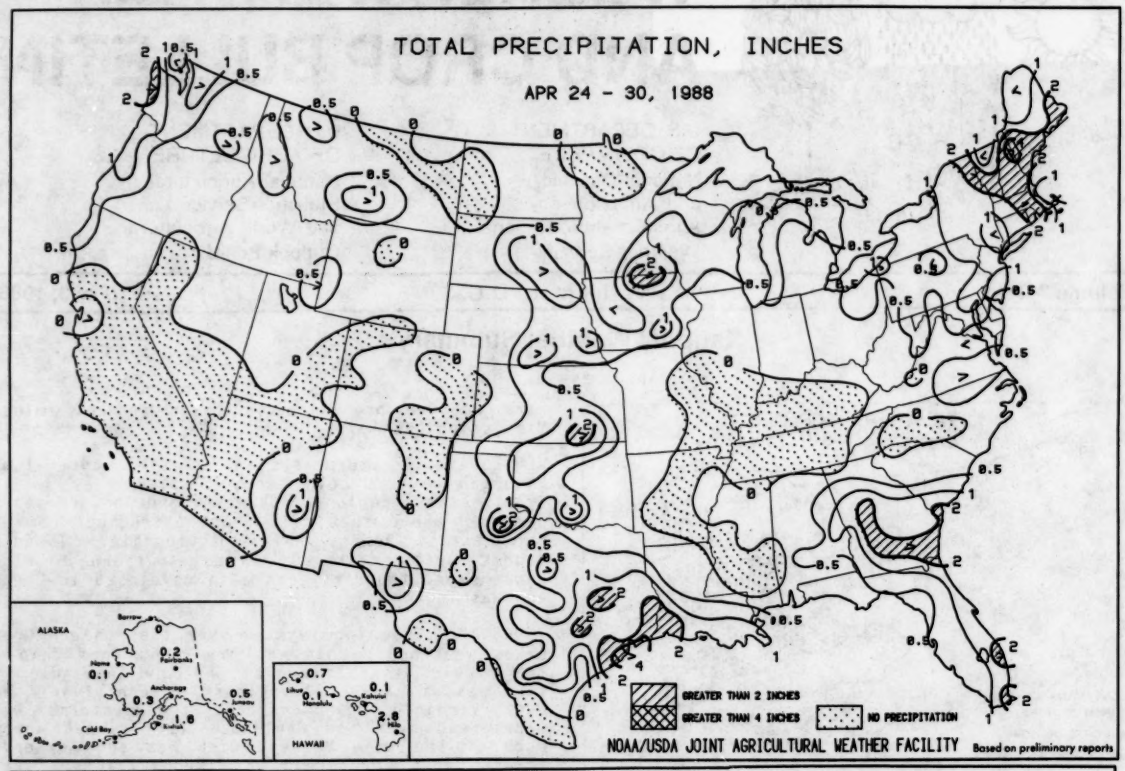
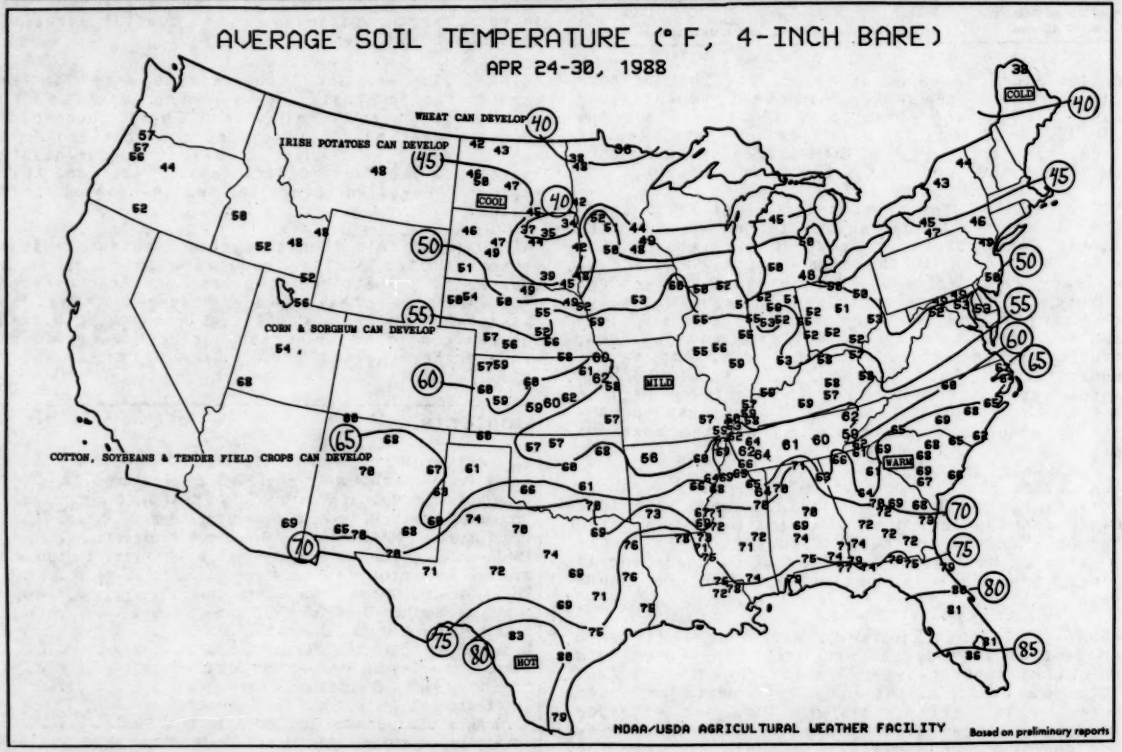
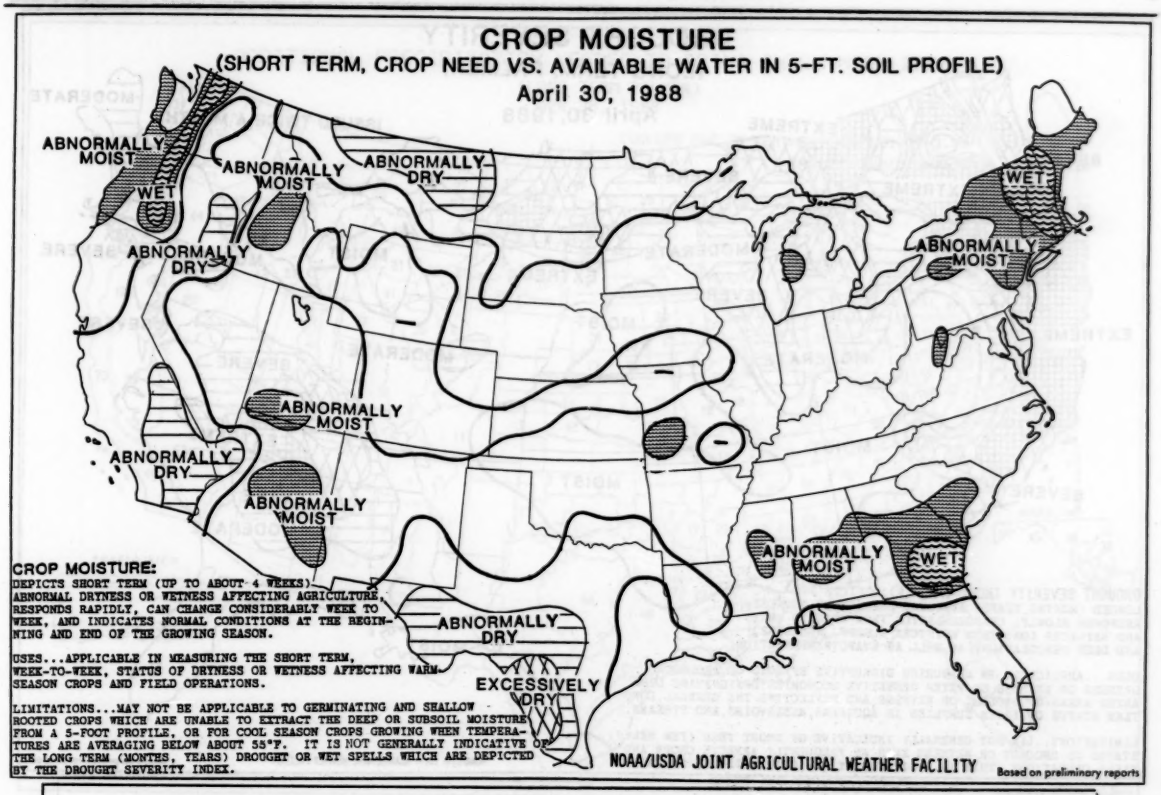
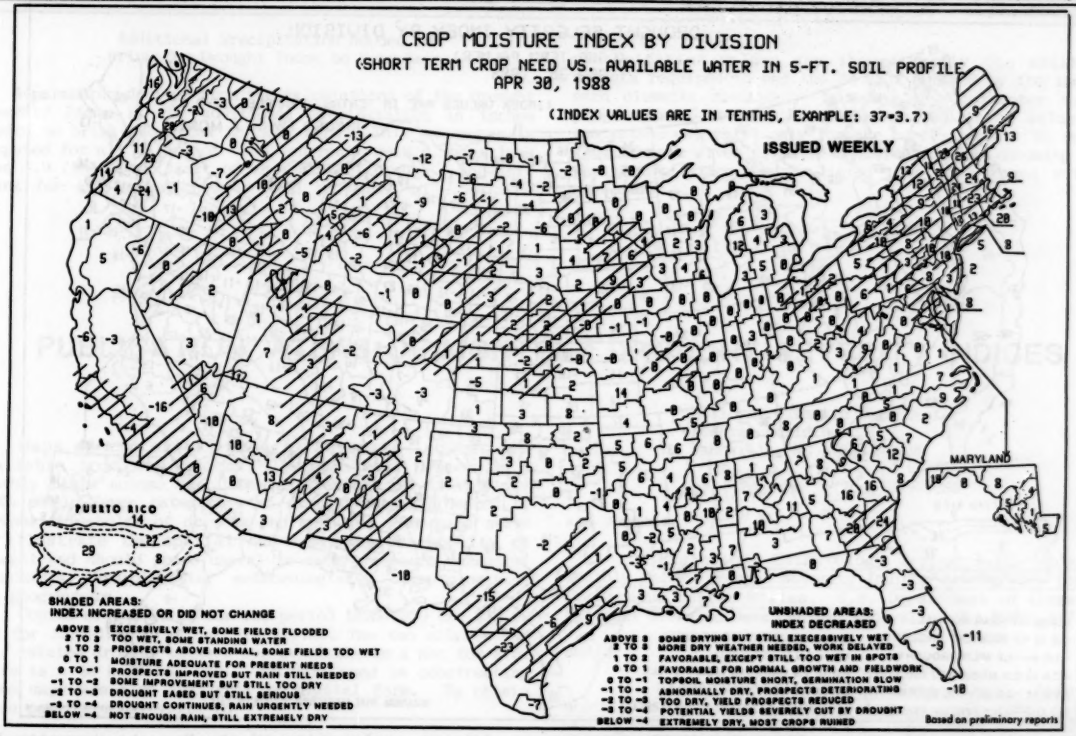
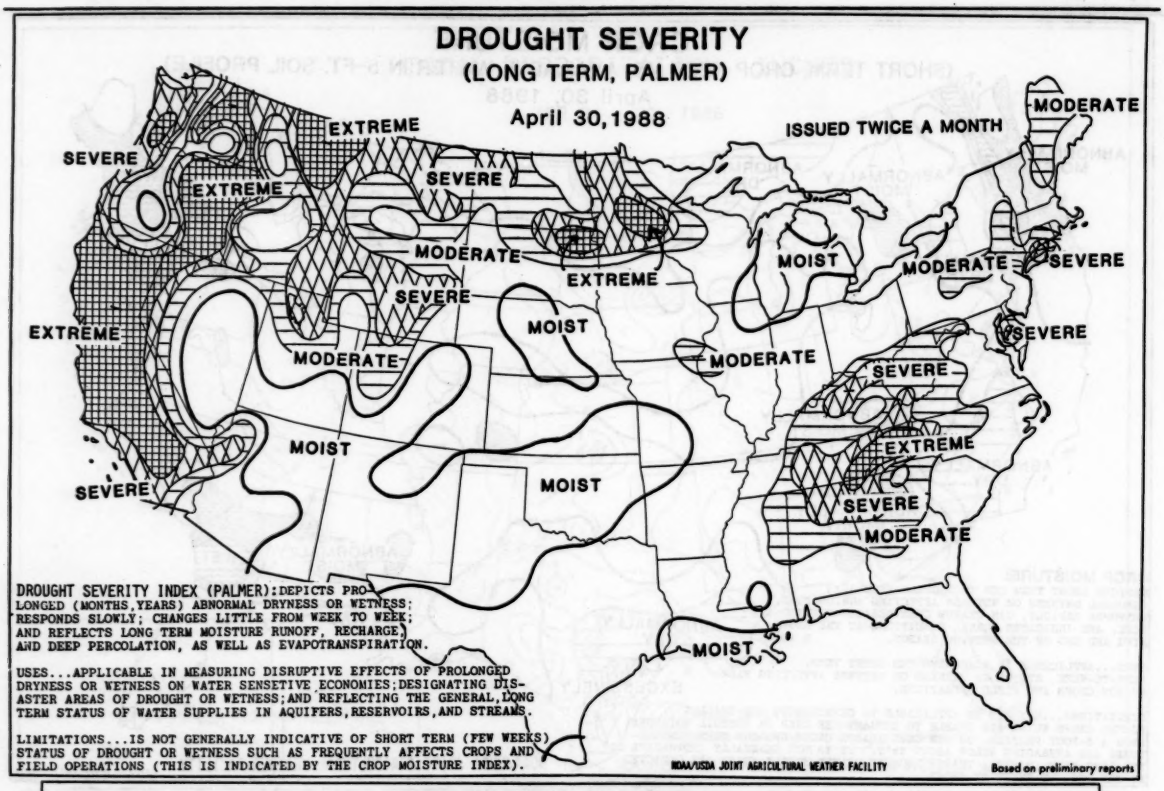

TOTAL PRECIPITATION, INCHES
APR 24 - 30, 1988
ALASKA
HAWAII
GREATER THAN 2 INCHES
GREATER THAN 4 INCHES
NO PRECIPITATION
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

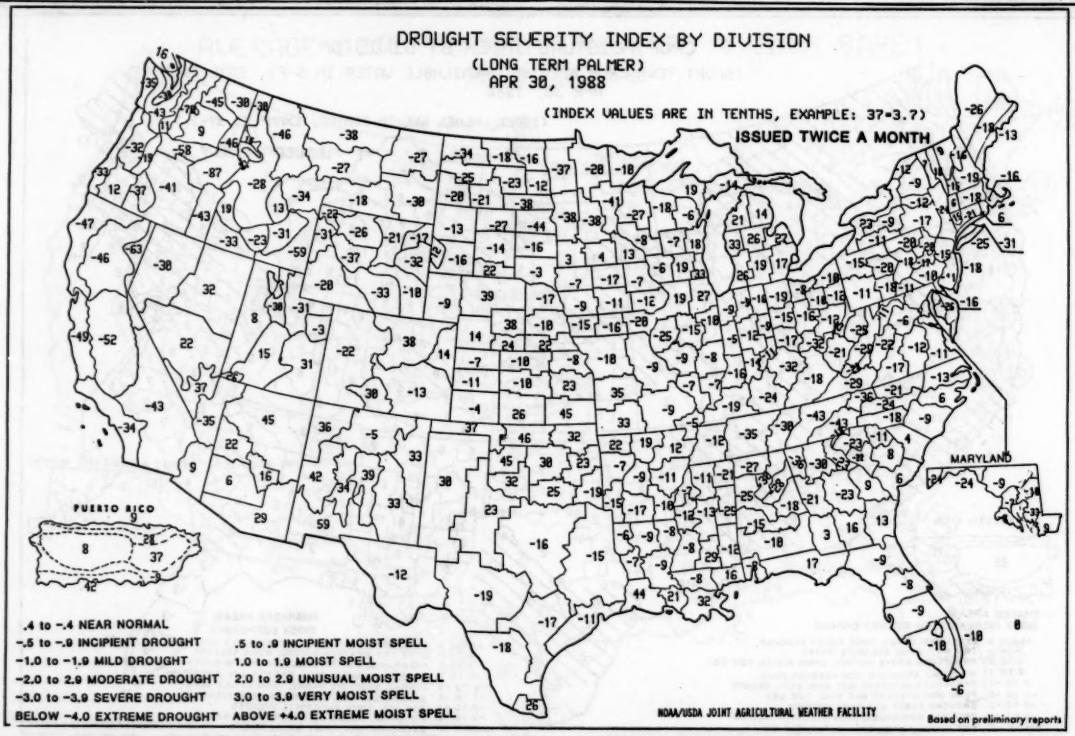

AVERAGE SOIL TEMPERATURE (° F, 4-INCH BARE)
APR 24-30, 1988
WHEAT CAN DEVELOP
IRISH POTATOES CAN DEVELOP
CORN & SORGHUM CAN DEVELOP
COTTON, SOYBEANS & TENDER FIELD CROPS CAN DEVELOP
COOL
MILD
WARM
HOT
COLD
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


CROP MOISTURE
(SHORT TERM, CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE)
April 30, 1988
ABNORMALLY MOIST
WET
ABNORMALLY MOIST
ABNORMALLY DRY
ABNORMALLY DRY
ABNORMALLY MOIST
WET
ABNORMALLY MOIST
ABNORMALLY MOIST
ABNORMALLY DRY
ABNORMALLY MOIST
ABNORMALLY MOIST
WET
ABNORMALLY DRY
EXCESSIVELY DRY
CROP MOISTURE:
DEPICTS SHORT TERM (UP TO ABOUT 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE. RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK, AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.
USES...APPLICABLE IN MEASURING THE SHORT TERM, WEEK-TO-WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM-SEASON CROPS AND FIELD OPERATIONS.
LIMITATIONS...MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A 5-FOOT PROFILE, OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55°F. IT IS NOT GENERALLY INDICATIVE OF THE LONG TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

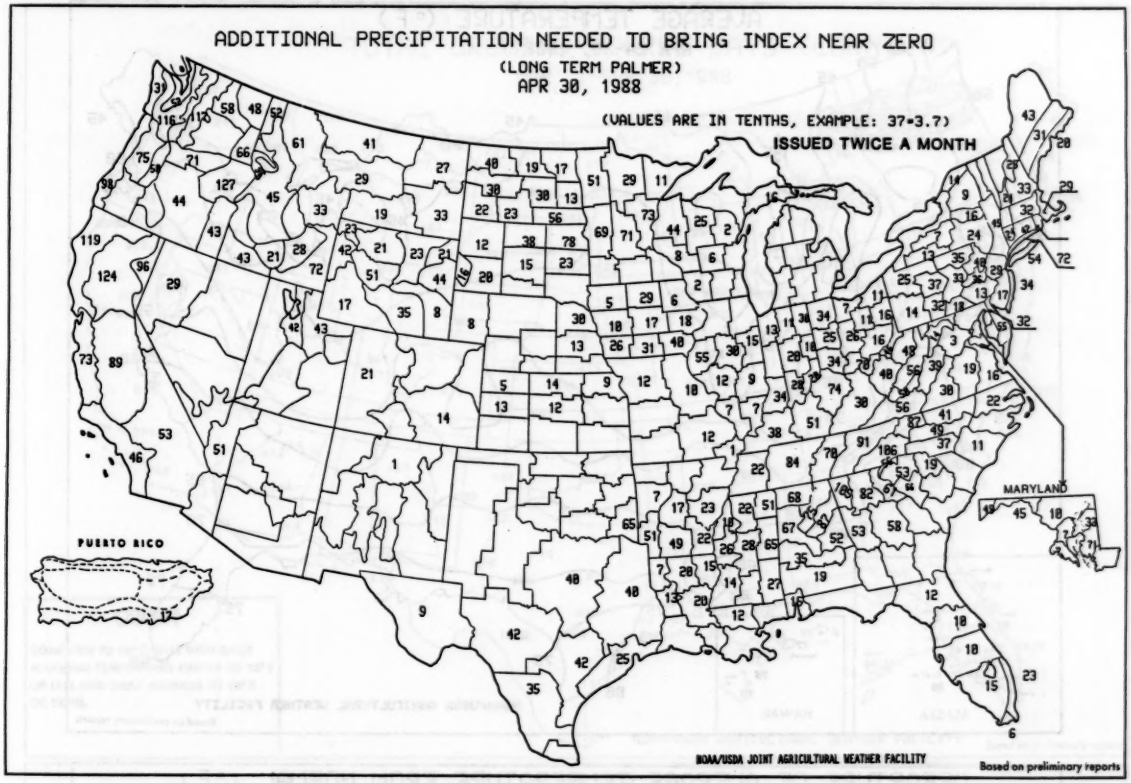

CROP MOISTURE INDEX BY DIVISION
(SHORT TERM CROP NEED VS. AVAILABLE WATER IN 5-FT. SOIL PROFILE
APR 30, 1988
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
ISSUED WEEKLY
MARYLAND
PUERTO RICO
SHADED AREAS:
INDEX INCREASED OR DID NOT CHANGE
ABOVE 3 EXCESSIVELY WET, SOME FIELDS FLOODED
2 TO 3 TOO WET, SOME STANDING WATER
1 TO 2 PROSPECTS ABOVE NORMAL, SOME FIELDS TOO WET
0 TO 1 MOISTURE ADEQUATE FOR PRESENT NEEDS
0 TO -1 PROSPECTS IMPROVED BUT RAIN STILL NEEDED
-1 TO -2 SOME IMPROVEMENT BUT STILL TOO DRY
-2 TO -3 DROUGHT EASED BUT STILL SERIOUS
-3 TO -4 DROUGHT CONTINUES, RAIN URGENTLY NEEDED
BELOW -4 NOT ENOUGH RAIN, STILL EXTREMELY DRY
UNSHADED AREAS:
INDEX DECREASED
ABOVE 3 SOME DRYING BUT STILL EXCESSIVELY WET
2 TO 3 MORE DRY WEATHER NEEDED, WORK DELAYED
1 TO 2 FAVORABLE, EXCEPT STILL TOO WET IN SPOTS
0 TO 1 FAVORABLE FOR NORMAL GROWTH AND FIELDWORK
0 TO -1 TOPSOIL MOISTURE SHORT, GERMINATION SLOW
-1 TO -2 ABNORMALLY DRY, PROSPECTS DETERIORATING
-2 TO -3 TOO DRY, YIELD PROSPECTS REDUCED
-3 TO -4 POTENTIAL YIELDS SEVERELY CUT BY DROUGHT
BELOW -4 EXTREMELY DRY, MOST CROPS RUINED
Based on preliminary reports

See Weekly Weather and Crop Bulletin, Vol. 74, No. 18 for a further explanation of the Crop Moisture Index.


DROUGHT SEVERITY
(LONG TERM, PALMER)
April 30,1988
ISSUED TWICE A MONTH
EXTREME
SEVERE
MODERATE
MOIST
DROUGHT SEVERITY INDEX (PALMER):DEPICTS PRO-
LONGED (MONTHS,YEARS) ABNORMAL DRYNESS OR WETNESS;
RESPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK;
AND REFLECTS LONG TERM MOISTURE RUNOFF, RECHARGE,
AND DEEP PERCOLATION, AS WELL AS EVAPOTRANSPIRATION.
USES...APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED
DRYNESS OR WETNESS ON WATER SENSETIVE ECONOMIES;DESIGNATING DIS-
ASTER AREAS OF DROUGHT OR WETNESS;AND REFLECTING THE GENERAL,LONG
TERM STATUS OF WATER SUPPLIES IN AQUIFERS,RESERVOIRS,AND STREAMS.
LIMITATIONS...IS NOT GENERALLY INDICATIVE OF SHORT TERM (FEW WEEKS)
STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND
FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


DROUGHT SEVERITY INDEX BY DIVISION
(LONG TERM PALMER)
APR 30, 1988
(INDEX VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
ISSUED TWICE A MONTH
PUERTO RICO
MARYLAND
.4 to -.4 NEAR NORMAL
-.5 to -.9 INCIPIENT DROUGHT
-1.0 to -1.9 MILD DROUGHT
-2.0 to 2.9 MODERATE DROUGHT
-3.0 to -3.9 SEVERE DROUGHT
BELOW -4.0 EXTREME DROUGHT
.5 to .9 INCIPIENT MOIST SPELL
1.0 to 1.9 MOIST SPELL
2.0 to 2.9 UNUSUAL MOIST SPELL
3.0 to 3.9 VERY MOIST SPELL
ABOVE +4.0 EXTREME MOIST SPELL
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

See Weekly Weather and Crop Bulletin, Vol.74, No.16 for a further explanation of the Drought Severity Index.


ADDITIONAL PRECIPITATION NEEDED TO BRING INDEX NEAR ZERO
(LONG TERM PALMER)
APR 30, 1988
(VALUES ARE IN TENTHS, EXAMPLE: 37=3.7)
ISSUED TWICE A MONTH
PUERTO RICO
MARYLAND
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

Additional Precipitation Needed to Bring the Drought Index to Near Zero

A parameter derived from the calculations of the Drought Severity Index is the additional precipitation in inches needed to bring the index to near zero. This parameter is computed for all values of the current week's index less than -.5 (the upper limit of an incipient drought) and left blank for all values greater than or equal to -.5. The precipitation values are theoretically the additional amounts required to end the drought defined by the index in each climatic division. In using this parameter to make projections, it must be realized that these values are instantaneous, valid only for the current week. To end the drought in a given climatic division for the oncoming week, the precipitation amount listed plus near-normal rainfall must occur.

PUBLICATION, ATLAS OF MONTHLY DROUGHT SEVERITY INDICES

Maps of historical Drought Severity Indices are available from the National Climatic Data Center on a monthly basis across the United States in two atlases for 1895-1983. Seven categories of drought are delineated by various thresholds of dryness and wetness. The maps serve to illustrate the spatial and temporal variability of drought and should prove useful to water resource managers, economists, hydrologists, meteorologists, climatologists, and geographers.

Copies of the atlas for the period 1895-1930 are $12.50 and for 1931-1983, the cost is $17.50. The two atlases and four related drought atlases are available in a set for $75. There is a $5 handling fee. The data used in constructing these maps are also available in digital form. To obtain these publications, write to:

National Climatic Data Center
Federal Building
Asheville, NC 28801-2695

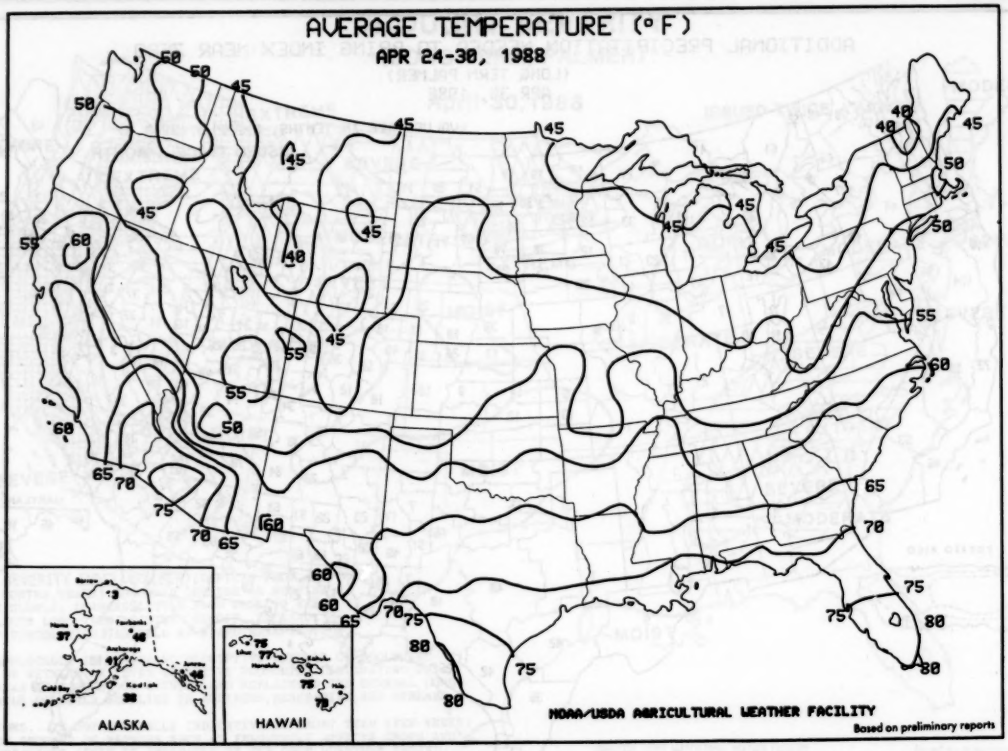
or telephone: (704) 259-0682

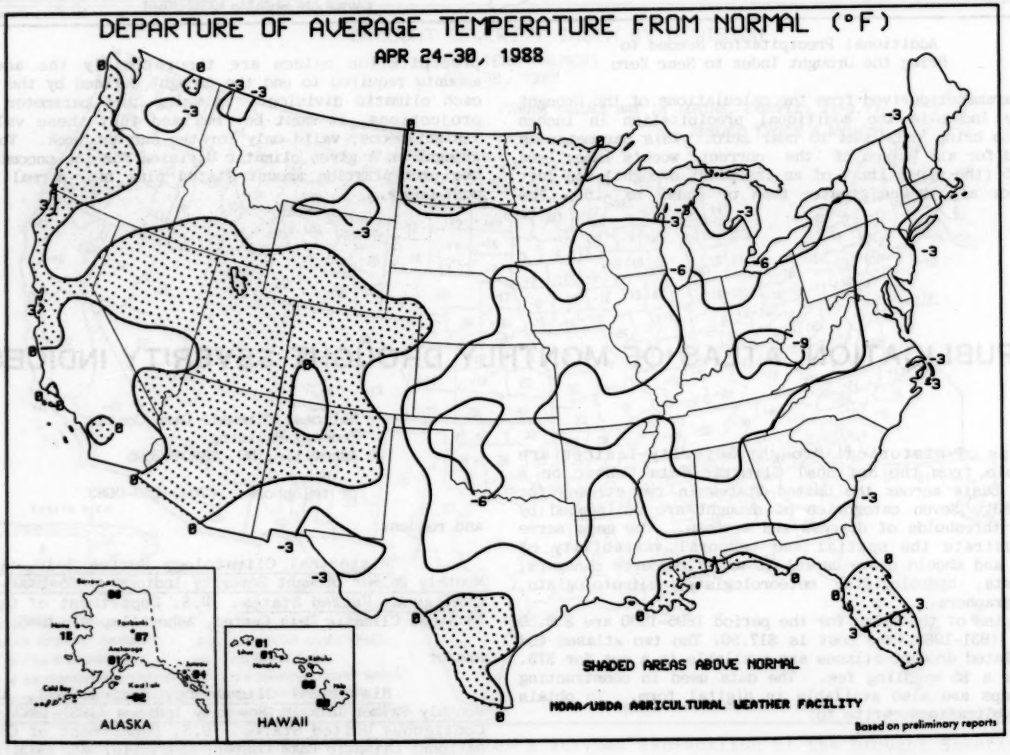
and request:

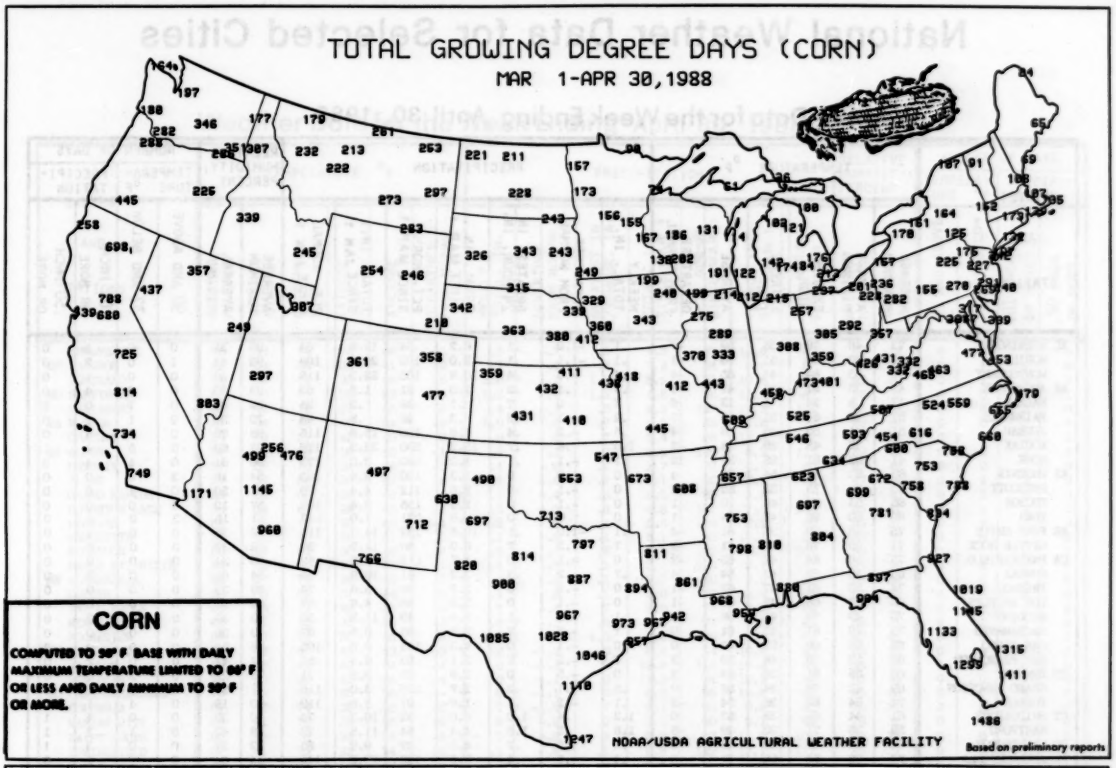
Historical Climatology Series 3-10, Atlas of Monthly Palmer Drought Severity Indices (1895-1930) for the Contiguous United States. U.S. Department of Commerce, National Climatic Data Center, Asheville, NC; 1985; 217 pp.

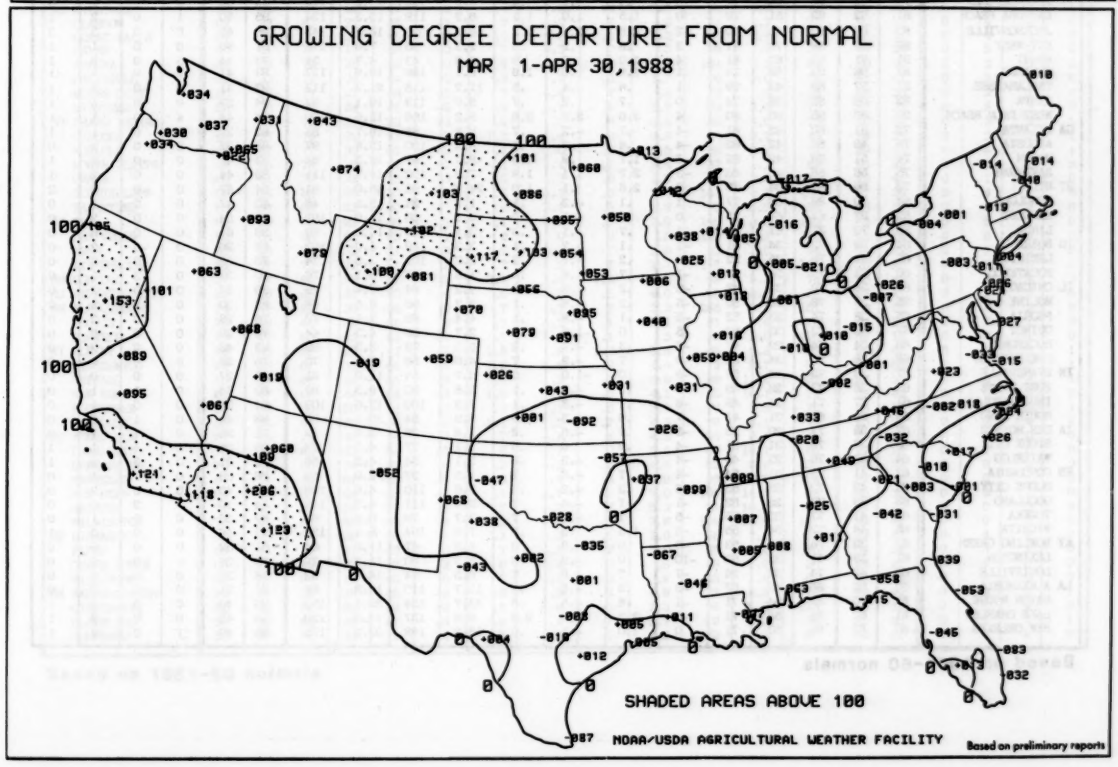
and/or

Historical Climatology Series 3-11, Atlas of Monthly Palmer Drought Severity Indices (1931-1983) for the Contiguous United States. U.S. Department of Commerce, National Climatic Data Center, Asheville, NC; 1985; 319 pp.


AVERAGE TEMPERATURE (°F)
APR 24-30, 1988
ALASKA
HAWAII
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)
APR 24-30, 1988
ALASKA
HAWAII
SHADED AREAS ABOVE NORMAL
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


TOTAL GROWING DEGREE DAYS (CORN)
MAR 1-APR 30,1988
CORN
COMPUTED TO 50° F BASE WITH DAILY MAXIMUM TEMPERATURE LIMITED TO 86° F OR LESS AND DAILY MINIMUM TO 50° F OR MORE.
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports


GROWING DEGREE DEPARTURE FROM NORMAL
MAR 1-APR 30,1988
SHADED AREAS ABOVE 100
NOAA/USDA AGRICULTURAL WEATHER FACILITY
Based on preliminary reports

National Weather Data for Selected Cities

Weather Data for the Week Ending April 30, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL BIRMINGHAM	73	46	79	38	59	-7	.1	-1.0	.1	6.2	54	13.8	64	95	31	0	0	1	0
MOBILE	81	60	90	51	70	-1	.1	-1.1	.1	12.0	102	22.9	108	92	41	1	0	2	0
MONTGOMERY	76	53	84	44	65	-4	.4	-.6	.4	10.8	105	22.3	118	95	39	0	0	1	0
AK ANCHORAGE	47	35	51	33	41	1	.3	.1	.2	1.0	81	1.8	60	89	50	0	0	4	0
BARROW	17	8	24	2	13	6	T	0	T	.1	38	.2	25	92	81	0	7	0	0
FAIRBANKS	57	36	61	31	46	7	.2	.1	.2	.3	46	.8	48	70	30	0	1	1	0
JUNEAU	51	41	58	35	46	4	.5	-.2	.4	6.6	106	15.6	115	98	65	0	0	4	0
KODIAK	44	32	48	29	38	-2	1.6	.6	.7	15.2	200	32.3	176	97	69	0	5	4	1
NOME	41	32	51	28	37	12	.1	-.1	.1	1.2	100	3.0	123	90	61	0	4	4	0
AZ PHOENIX	89	63	96	54	76	4	0	0	0	1.3	120	2.4	103	54	18	3	0	0	0
PRESCOTT	70	39	75	32	55	2	0	-.1	0	2.6	112	4.4	79	61	20	0	1	0	0
TUCSON	86	53	92	46	70	1	0	-.1	0	1.5	155	2.4	102	57	12	3	0	0	0
YUMA	89	60	96	49	74	1	0	0	0	.6	221	1.0	112	51	15	3	0	0	0
AR FORT SMITH	75	46	79	39	61	-4	.1	-1.0	.1	10.6	132	14.3	115	92	35	0	0	1	0
LITTLE ROCK	71	50	76	45	61	-5	T	-1.3	T	8.0	80	14.2	80	62	37	0	0	0	0
CA BAKERSFIELD	75	50	84	48	63	-3	0	-.1	0	1.7	112	2.9	82	86	34	0	0	0	0
EUREKA	60	48	65	43	54	4	.7	.2	.3	3.2	41	10.9	54	84	61	0	0	3	0
FRESNO	74	50	81	47	62	-1	0	-.2	0	2.7	99	5.0	76	89	33	0	0	0	0
LOS ANGELES	66	53	68	48	60	-1	0	-.1	0	1.2	46	4.6	57	89	56	0	0	0	0
REDDING	70	49	79	41	59	-4	.1	-.3	.1	3.8	49	11.2	50	85	36	0	0	2	0
SACRAMENTO	73	49	81	43	61	0	T	-.2	T	2.3	68	6.8	67	89	36	0	0	0	0
SAN DIEGO	68	56	69	51	62	0	0	-.1	0	4.3	168	6.6	105	86	58	0	0	0	0
SAN FRANCISCO	66	52	76	48	59	3	T	-.2	T	2.1	50	6.4	53	87	47	0	0	2	0
CO DENVER	69	38	81	26	53	2	0	-.5	0	1.9	65	2.9	71	75	22	0	2	0	0
GRAND JUNCTION	69	42	78	34	56	0	.2	.1	.2	1.7	120	3.0	116	61	20	0	0	1	0
PUEBLO	74	34	87	26	54	-2	.1	-.2	.1	1.6	97	2.6	119	80	18	0	4	1	0
CT BRIDGEPORT	61	44	66	39	53	0	1.2	.4	1.0	4.0	52	10.3	74	80	39	0	0	4	1
HARTFORD	59	38	71	30	49	-5	1.6	.8	1.6	4.4	54	11.8	79	88	43	0	1	3	1
DC WASHINGTON	64	46	75	44	55	-6	.7	0	.7	4.3	67	9.9	85	82	37	0	0	3	1
FL APALACHICOLA	79	63	84	55	71	0	.4	-.3	.4	8.9	122	20.2	140	94	54	0	0	1	0
DAYTONA BEACH	81	62	92	51	72	0	1.5	1.0	1.1	6.2	119	13.3	124	95	50	1	0	2	1
JACKSONVILLE	80	59	89	45	70	-2	2.9	2.1	2.2	6.1	95	18.5	143	95	45	0	0	3	2
KEY WEST	87	76	89	74	81	3	.6	.2	.6	2.3	85	7.6	118	91	60	0	0	1	1
MIAMI	91	71	93	67	81	4	1.0	0	.9	2.2	43	4.7	51	93	44	5	0	2	1
ORLANDO	85	66	93	58	76	1	1.6	1.0	1.6	8.1	146	12.6	117	93	41	2	0	1	1
TALLAHASSEE	81	57	89	42	69	-1	.6	-.4	.5	11.2	115	21.7	113	93	41	0	0	3	1
TAMPA	82	66	85	58	74	0	.7	.2	.7	5.9	113	10.1	97	94	52	0	0	1	1
WEST PALM BEACH	90	69	95	60	80	4	3.6	2.7	3.6	9.2	156	15.6	139	94	44	4	0	1	1
GA ATLANTA	72	51	80	42	61	-4	.7	-.2	.7	8.8	85	16.7	85	82	32	0	0	1	1
AUGUSTA	75	49	85	42	62	-4	.4	-.3	.4	8.2	100	15.8	97	88	37	0	0	2	0
MACON	74	51	86	42	62	-6	1.7	.9	1.4	8.4	97	16.3	94	93	41	0	0	2	1
SAVANNAH	75	56	86	46	66	-3	2.0	1.1	1.9	7.2	102	14.7	111	86	44	0	0	2	1
HI HILO	79	66	81	64	73	0	2.8	.1	1.0	24.7	93	45.0	91	94	67	0	0	6	2
HONOLULU	84	70	86	68	77	1	.1	-.2	.1	1.2	24	5.5	48	83	47	0	0	1	0
KAHULUI	82	67	84	64	75	0	.1	-.1	0	2.3	60	11.0	102	85	54	0	0	2	0
LIHUE	80	70	81	67	75	1	.7	-.1	.3	3.1	40	14.5	82	89	61	0	0	6	0
ID BOISE	64	39	73	34	51	-1	.1	-.2	.1	3.3	149	5.0	103	82	26	0	0	2	0
LEWISTON	62	41	76	35	52	+2	.2	-.1	.2	2.2	101	3.3	74	76	36	0	0	2	0
POCATELLO	60	35	72	26	47	-1	.7	.4	.5	1.8	87	3.1	76	90	33	0	3	5	0
IL CHICAGO	60	36	70	33	48	-5	.2	-.6	.2	4.2	64	7.4	79	86	37	0	0	2	0
MOLINE	65	35	76	26	50	-5	.2	-.8	.1	3.7	56	6.5	68	88	30	0	2	2	0
PEORIA	65	38	74	33	52	-5	.1	-.8	.1	4.4	66	7.1	73	76	28	0	0	2	0
QUINCY	67	40	73	33	53	-5	0	-1.0	0	2.7	38	4.3	44	74	29	0	0	0	0
ROCKFORD	60	34	74	29	47	-6	.3	-.7	.2	5.3	78	8.3	89	93	43	0	2	2	0
SPRINGFIELD	66	38	75	34	52	-6	T	-.9	T	4.0	56	7.5	73	75	28	0	0	0	0
IN EVANSVILLE	67	38	75	33	52	-9	0	-1.0	0	4.7	54	11.9	81	85	27	0	0	0	0
FORT WAYNE	63	36	73	28	49	-5	.1	-.8	.1	5.8	90	9.3	89	80	34	0	1	1	0
INDIANAPOLIS	61	37	71	34	49	-8	.1	-.8	.1	7.2	100	12.6	103	84	36	0	0	1	0
SOUTH BEND	58	35	66	31	47	-7	.6	-.3	.3	5.9	84	10.1	88	88	40	0	1	3	0
IA DES MOINES	67	38	77	29	53	-3	.2	-.6	.2	1.4	26	2.4	32	71	26	0	1	1	0
SIOUX CITY	66	37	78	31	51	-4	.6	0	.6	3.1	77	4.3	77	85	35	0	4	1	1
WATERLOO	64	35	76	27	49	-4	.6	-.3	.6	3.1	54	4.2	56	89	31	0	3	2	1
KS CONCORDIA	67	41	75	31	54	-4	T	-.6	T	1.5	37	2.9	52	86	38	0	1	1	0
DODGE CITY	65	42	72	35	53	-6	.3	-.2	.3	3.6	110	4.6	109	90	45	0	0	2	0
GOODLAND	68	36	76	25	52	-1	T	-.4	T	2.4	111	4.2	146	84	30	0	2	0	0
TOPEKA	68	41	77	33	55	-5	T	-.8	T	3.7	70	6.2	86	89	36	0	0	1	0
WICHITA	65	44	72	34	55	-6	1.3	.6	.8	7.4	164	8.1	134	93	46	0	0	3	1
KY BOWLING GREEN	67	39	76	35	53	-8	0	-.9	0	4.6	47	11.8	64	81	32	0	0	0	0
LEXINGTON	61	38	71	33	50	-10	0	-.9	0	5.3	60	11.3	72	73	36	0	0	0	0
LOUISVILLE	66	42	74	37	54	-7	T	-.9	T	6.5	74	14.1	92	78	32	0	0	0	0
LA ALEXANDRIA	80	55	86	49	67	-3	.5	-.8	.3	11.7	112	16.8	86	81	31	0	0	2	0
BATON ROUGE	81	60	87	54	71	-1	.8	-.5	.8	13.7	134	30.1	153	90	40	0	0	2	1
LAKE CHARLES	81	60	88	58	71	-1	2.3	1.2	2.2	9.6	137	17.9	120	94	40	0	0	2	1
NEW ORLEANS	80	63	90	57	71	0	1.0	-.1	.6	18.2	198	33.2	171	95	49	1	0	2	1

Based on 1951-80 normals

Weather Data for the Week Ending April 30, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
SHREVEPORT	78	53	84	48	66	-3	.5	-.7	.5	7.3	87	13.0	82	84	34	0	0	2	0
ME CARIBOU	48	34	58	32	41	-2	.7	.1	.3	3.2	64	8.6	91	98	61	0	1	4	0
PORTLAND	52	39	61	32	46	-2	2.0	1.2	1.3	5.5	71	10.8	72	96	60	0	1	4	2
MD BALTIMORE	63	43	73	38	53	-5	1.2	.4	1.2	4.8	68	11.3	87	82	35	0	0	1	1
SALISBURY	65	42	72	37	53	-5	.4	-.3	.3	9.2	127	17.3	124	91	36	0	0	3	0
MA BOSTON	57	44	66	42	51	-2	1.0	.2	.7	5.2	66	11.6	75	89	54	0	0	3	1
CHATHAM	53	43	57	42	48	0	.9	0	.7	5.4	68	13.3	81	89	61	0	0	2	1
MI ALPENA	57	34	66	28	45	-1	.9	.3	.7	6.0	135	8.5	115	89	40	0	2	3	1
DETROIT	57	39	70	34	48	-5	.1	-.6	.1	2.7	47	6.0	65	83	43	0	0	3	0
FLINT	57	36	68	30	47	-4	.1	-.6	.1	4.1	80	6.9	85	87	44	0	1	2	0
GRAND RAPIDS	59	36	69	28	48	-4	.4	-.4	.3	5.2	85	8.8	91	88	40	0	2	2	0
HOUGHTON LAKE	56	34	69	28	45	-3	.3	-.3	.3	4.8	107	7.6	105	85	41	0	1	2	0
LANSING	58	35	70	28	46	-4	.2	-.5	.1	5.5	104	8.1	98	86	37	0	2	2	0
MARQUETTE	53	29	65	26	41	-3	.1	-.8	.1	5.1	80	10.1	98	86	35	0	6	1	0
MUSKEGON	56	36	63	30	46	-4	.8	.1	.6	5.8	102	10.3	107	88	39	0	1	2	1
SAULT ST. MARIE	54	32	65	25	43	-1	.1	-.5	.1	5.1	116	9.1	111	85	36	0	3	1	0
MN ALEXANDRIA	62	37	74	29	49	1	.1	-.5	.1	2.7	80	3.9	80	89	28	0	4	1	0
DULUTH	58	30	69	27	44	0	.1	-.5	.1	3.0	77	3.9	65	83	25	0	6	2	0
INT'L FALLS	62	28	77	22	45	0	T	-.4	T	2.0	75	2.6	62	77	23	0	6	1	0
MINNEAPOLIS	62	37	75	31	49	-3	.5	-.1	.5	2.9	77	4.5	85	86	31	0	2	2	0
ROCHESTER	58	33	73	28	46	-5	1.6	.9	1.5	4.0	93	5.4	92	87	41	0	3	2	1
MS GREENWOOD	76	49	80	43	63	-5	0	-1.2	0	6.4	54	10.8	50	90	30	0	0	0	0
JACKSON	78	50	82	43	64	-4	0	-1.3	0	12.8	114	19.0	93	98	37	0	0	0	0
MERIDIAN	78	50	82	42	64	-4	0	-1.1	0	11.3	94	18.2	84	97	34	0	0	0	0
MO CAPE GIRARDEAU	70	39	74	35	55	-	0	-1.1	0	5.2	55	10.6	69	85	28	0	0	0	0
COLUMBIA	67	40	74	35	53	-6	T	-1.0	T	6.1	84	9.9	91	75	31	0	0	0	0
KANSAS CITY	69	41	78	32	55	-6	0	-.9	0	3.6	60	5.7	68	78	31	0	1	0	0
SAINT LOUIS	69	43	76	38	56	-5	T	-.8	T	5.9	87	11.5	108	88	25	0	0	0	0
SPRINGFIELD	67	41	75	33	54	-6	.1	-.9	.1	9.6	129	13.1	117	84	37	0	0	1	0
MT BILLINGS	59	34	75	24	47	-2	1.0	.5	.6	2.5	84	3.6	80	81	36	0	2	3	1
GLASGOW	62	33	80	22	48	-1	T	-.2	T	.6	53	1.2	73	66	21	0	4	1	0
GREAT FALLS	57	32	75	26	45	-3	.4	0	.3	1.2	51	2.4	60	81	31	0	4	3	0
HAVRE	60	31	78	17	46	-3	T	-.3	T	.5	26	1.0	36	66	21	0	5	0	0
HELENA	58	34	72	26	46	0	T	-.3	T	1.8	104	2.5	91	90	33	0	3	3	0
KALISPELL	56	33	72	24	44	-3	.6	.3	.3	1.7	94	3.6	79	91	41	0	3	4	0
MILES CITY	60	36	77	27	48	-3	T	-.4	T	.4	19	.8	25	64	26	0	3	1	0
MISSOULA	58	32	74	24	45	-2	.2	-.1	.1	1.7	96	3.0	76	87	33	0	3	3	0
NE GRAND ISLAND	67	38	76	30	52	-3	.9	.1	.6	2.5	60	4.0	73	90	38	0	2	2	1
LINCOLN	69	37	76	28	53	-3	1.2	.4	.9	2.6	54	3.2	49	89	35	0	2	2	1
NORFOLK	66	37	77	30	52	-3	.7	0	.7	2.5	68	3.7	74	89	33	0	4	1	1
NORTH PLATTE	68	35	78	29	51	-1	.1	-.4	.1	2.4	82	3.1	82	93	32	0	4	1	0
OMAHA	68	41	76	32	55	-3	.5	-.3	.5	1.9	40	2.6	40	79	44	0	1	3	0
SCOTTSBLUFF	66	34	83	27	50	-1	.2	-.3	.2	3.4	141	4.3	134	87	30	0	4	1	0
VALENTINE	65	34	86	23	50	-1	.4	-.1	.3	1.8	70	3.3	98	83	34	0	4	2	0
NV ELY	63	30	69	22	46	1	.1	-.1	.1	1.9	106	3.2	102	83	25	0	5	1	0
LAS VEGAS	82	55	88	45	69	1	0	0	0	.8	129	1.7	110	43	14	0	0	0	0
RENO	66	36	74	32	51	2	T	-.1	T	1.0	82	1.5	44	74	22	0	1	0	0
WINNEMUCCA	64	37	73	30	51	2	T	-.2	T	1.7	115	3.1	103	75	20	0	1	0	0
NH CONCORD	57	37	68	26	47	-2	2.1	1.4	1.4	4.1	68	8.3	74	93	45	0	2	4	1
NJ ATLANTIC CITY	61	40	65	31	50	-4	.6	-.1	.5	4.0	55	10.8	77	93	41	0	1	3	0
NM ALBUQUERQUE	74	44	81	36	59	0	T	-.1	T	2.3	255	2.5	151	58	16	0	0	2	0
CLOVIS	75	46	81	38	61	0	.1	-.2	.1	1.1	81	1.6	70	63	22	0	0	1	0
ROSWELL	79	47	83	42	63	-1	.1	0	.1	.3	38	2.0	120	57	18	0	0	1	0
NY ALBANY	58	36	69	27	47	-5	1.5	.8	1.0	3.8	65	8.8	84	90	46	0	1	3	1
BINGHAMTON	51	36	67	31	44	-6	1.3	.6	.9	4.4	73	9.7	90	91	55	0	1	3	1
BUFFALO	53	38	61	34	45	-5	1.0	.3	.7	6.0	99	11.6	102	87	53	0	0	4	1
NEW YORK	61	47	66	44	54	-2	1.0	.2	.5	4.1	52	10.1	72	89	40	0	0	4	0
ROCHESTER	53	36	60	30	44	-7	.7	.1	.6	3.9	76	6.8	70	94	55	0	2	3	1
SYRACUSE	55	36	67	31	46	-5	1.1	.3	.7	4.5	70	8.1	70	93	52	0	2	4	1
NC ASHEVILLE	67	44	75	42	56	-4	T	-.8	T	4.8	58	9.4	64	73	29	0	0	0	0
CHARLOTTE	73	49	83	43	61	-3	0	-.7	0	5.6	89	10.1	65	77	28	0	0	0	0
GREENSBORO	70	44	80	39	57	-5	.2	-.5	.2	4.4	63	8.0	58	82	32	0	0	2	0
HATTERAS	67	54	73	51	60	-2	.3	-.4	.3	6.9	96	16.6	104	92	45	0	0	1	0
NEW BERN	74	50	85	44	62	-3	.1	-.7	.1	7.0	106	14.3	98	85	34	0	0	1	0
RALEIGH	71	43	82	38	57	-6	T	-.7	T	5.3	81	10.9	81	84	30	0	0	0	0
WILMINGTON	73	51	83	45	62	-5	.2	-.6	.1	7.6	108	15.0	107	91	44	0	0	2	0
ND BISMARCK	65	33	83	25	49	1	.1	-.3	.1	1.0	48	2.1	69	79	23	0	4	2	0
FARGO	65	33	79	21	49	0	T	-.5	T	1.0	38	2.9	80	84	24	0	5	1	0
GRAND FORKS	65	33	79	27	49	2	0	-.4	0	.9	43	1.7	50	66	21	0	4	0	0
WILLISTON	65	31	84	19	48	0	0	-.4	0	.8	43	1.8	64	64	19	0	4	0	0
OH AKRON-CANTON	54	37	68	35	45	-8	.6	-.2	.6	4.9	75	8.8	78	89	50	0	0	2	1
CINCINNATI	62	36	71	32	49	-9	.1	-.8	0	7.3	98	15.0	113	80	32	0	0	2	1
CLEVELAND	54	39	64	37	47	-6	.9	.1	.7	5.7	90	9.5	88	82	48	0	0	3	1
COLUMBUS	59	37	71	34	48	-8	.2	-.7	.1	4.8	72	11.2	97	90	41	0	0	2	0

Based on 1951-80 normals

Weather Data for the Week Ending April 30, 1988

STATES AND STATIONS	TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																TEMPERATURE °F		PRECIPITATION	
	AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE MAR 1	PCT. NORMAL SINCE MAR 1	TOTAL, IN., SINCE JAN 1	PCT. NORMAL SINCE JAN 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
DAYTON	62	37	71	32	49	-7	.1	-.7	.1	5.1	78	10.3	93	74	32	0	1	2	0
TOLEDO	60	36	70	29	48	-5	.4	-.3	.2	3.1	56	5.6	60	85	39	0	1	2	0
YOUNGSTOWN	54	37	68	31	46	-7	.5	-.3	.4	4.1	60	7.7	66	87	48	0	1	2	0
OK OKLAHOMA CITY	70	48	74	39	59	-5	.5	-.4	.3	11.0	223	12.7	176	86	41	0	0	3	0
TULSA	70	48	77	41	59	-6	.2	-.9	.2	9.7	134	11.8	115	80	36	0	0	1	0
OR ASTORIA	58	40	66	32	49	0	1.2	.4	.5	11.9	99	22.0	72	95	58	0	1	3	1
BURNS	56	31	68	26	44	-3	.2	0	.1	1.7	106	2.9	71	83	34	0	5	3	0
MEDFORD	65	42	75	34	54	0	.2	0	.1	1.6	57	4.4	52	92	38	0	0	4	0
PENDLETON	62	41	74	36	52	-2	.3	.1	.3	3.4	170	5.4	112	79	39	0	0	3	0
PORTLAND	62	43	73	38	53	0	1.2	.7	.5	7.7	131	13.8	87	94	52	0	0	4	0
SALEM	63	42	73	30	52	1	.8	.3	.4	6.9	103	14.4	79	94	53	0	1	4	0
PA ALLENTOWN	61	39	71	31	50	-4	.7	-.2	.5	3.9	50	9.9	71	90	41	0	1	4	1
ERIE	52	38	62	30	45	-5	.6	-.2	.5	5.4	85	9.4	87	90	51	0	1	3	1
HARRISBURG	60	41	71	35	51	-6	.8	.1	.6	4.6	69	10.1	81	83	40	0	0	4	1
PHILADELPHIA	63	42	73	39	53	-5	1.2	.5	1.1	5.2	71	12.0	90	87	40	0	0	3	1
PITTSBURGH	56	38	71	33	47	-8	.4	-.4	.2	4.5	66	9.5	79	94	48	0	0	3	0
SCRANTON	56	39	70	31	47	-6	1.6	.9	1.1	4.6	82	8.4	84	87	47	0	1	4	1
RI PROVIDENCE	59	42	70	35	50	-2	2.7	1.8	2.6	7.2	88	15.2	95	92	50	0	0	2	1
SC CHARLESTON	74	53	84	42	64	-4	.9	.3	.8	5.0	72	10.1	74	92	48	0	0	3	1
COLUMBIA	75	48	86	38	62	-6	.1	-.7	.1	5.0	57	11.1	65	95	32	0	0	2	0
FLORENCE	76	49	86	38	63	-5	T	-.6	T	6.4	90	10.4	75	89	35	0	0	1	0
GREENVILLE	73	44	82	37	59	-6	0	-.9	0	7.1	69	12.8	67	87	31	0	0	0	0
SD ABERDEEN	66	34	82	22	50	0	.1	-.4	.1	.5	17	1.2	29	82	27	0	5	1	0
HURON	63	36	80	28	49	-2	.7	.1	.4	2.9	92	3.9	89	89	38	0	5	2	0
RAPID CITY	66	33	86	20	49	0	.4	-.2	.4	1.1	38	1.6	41	81	27	0	4	2	0
SIOUX FALLS	62	36	77	30	49	-3	.6	0	.5	3.6	93	5.4	102	86	38	0	2	3	0
TN CHATTANOOGA	72	45	78	38	58	-6	T	-1.0	T	5.1	47	14.1	68	94	29	0	0	0	0
KNOXVILLE	69	41	76	34	55	-8	.1	-.8	.1	4.8	51	12.0	66	89	29	0	0	1	0
MEMPHIS	73	49	77	46	61	-6	0	-1.3	0	7.1	63	14.8	74	74	31	0	0	0	0
NASHVILLE	68	41	75	36	54	-9	0	-1.0	0	4.3	43	10.0	54	84	31	0	0	0	0
TX ABILENE	79	53	90	43	66	-3	.1	-.6	.1	2.6	76	3.1	57	72	30	1	0	1	0
AMARILLO	69	43	76	35	56	-4	.1	-.3	.1	3.4	179	3.8	130	83	33	0	0	1	0
AUSTIN	83	60	97	55	72	0	1.0	.1	.9	4.7	98	5.3	60	81	41	2	0	3	1
BEAUMONT	82	60	88	54	71	-1	2.4	1.3	2.3	8.2	113	16.5	106	95	45	0	0	2	1
BROWNSVILLE	86	67	90	59	77	0	T	-.4	T	1.4	69	6.9	144	96	51	2	0	0	0
CORPUS CHRISTI	86	61	91	57	74	-2	.5	-.1	.5	1.4	55	3.4	60	97	46	2	0	2	0
DEL RIO	86	61	95	57	74	-1	.1	-.4	.1	.3	11	.5	13	53	23	1	0	1	0
EL PASO	80	45	85	37	63	-5	.1	.1	.1	.3	69	1.3	100	56	14	0	0	1	0
FORT WORTH	76	53	81	46	65	-4	.6	-.5	.5	4.2	66	6.4	64	86	40	0	0	3	0
GALVESTON	76	67	87	63	72	-1	5.0	4.3	5.0	9.7	203	13.5	134	93	55	0	0	1	1
HOUSTON	82	58	91	53	70	-2	1.1	.1	1.0	6.2	96	8.7	66	92	44	1	0	2	1
LUBBOCK	77	48	83	42	63	-1	T	-.4	T	1.9	97	2.6	89	76	26	0	0	1	0
MIDLAND	81	50	89	44	66	-2	T	-.3	T	.8	62	1.3	55	59	21	0	0	0	0
SAN ANGELO	83	49	92	43	66	-4	.1	-.4	.1	2.1	82	2.5	63	72	25	1	0	1	0
SAN ANTONIO	87	58	95	52	73	0	.5	-.3	.5	2.1	52	3.4	46	81	35	2	0	1	0
VICTORIA	85	61	92	57	73	-1	.3	-.5	.3	2.8	70	5.6	69	94	43	1	0	1	0
WACO	81	54	92	48	67	-3	.6	-.4	.6	4.4	76	6.5	69	88	38	1	0	2	1
WICHITA FALLS	74	48	80	38	61	-6	.1	-.8	0	7.4	155	9.2	138	88	39	0	0	3	0
UT BLANDING	67	38	74	32	52	1	T	-.1	T	.6	40	3.1	83	78	41	0	1	1	0
CEDAR CITY	65	37	70	29	51	1	T	-.2	T	4.6	224	6.2	177	78	27	0	2	0	0
SALT LAKE CITY	65	41	75	31	53	0	.4	-.1	.1	2.8	71	4.0	61	79	28	0	1	3	0
VT BURLINGTON	51	38	58	29	44	-4	1.0	.3	.3	3.5	70	5.8	69	96	58	0	1	6	0
VA NORFOLK	68	46	81	40	57	-5	.6	-.1	.5	5.6	84	11.5	84	86	36	0	0	2	1
RICHMOND	69	42	77	36	56	-6	.2	-.5	.2	4.5	70	10.1	79	86	32	0	0	2	0
ROANOKE	66	43	76	37	54	-6	T	-.7	T	4.3	63	7.2	57	75	30	0	0	0	0
WA QUILLAYUTE	56	39	64	33	48	0	3.5	2.1	2.0	23.7	123	41.4	91	98	61	0	0	5	2
SEATTLE-TACOMA	59	41	71	37	50	-1	.7	.2	.3	6.9	116	11.7	72	95	52	0	0	4	0
SPOKANE	58	35	70	24	47	-3	.5	.2	.4	3.7	155	5.8	91	90	37	0	2	3	0
YAKIMA	63	35	69	29	49	-3	T	-.1	T	1.6	146	2.3	71	87	29	0	3	2	0
WV BECKLEY	59	36	70	29	48	-8	.1	-.6	.1	5.2	70	9.1	65	74	33	0	1	1	0
CHARLESTON	62	39	74	31	50	-9	.1	-.7	.1	4.9	65	9.0	64	87	32	0	1	1	0
HUNTINGTON	62	39	74	32	51	-9	.1	-.8	.1	6.1	81	10.5	77	80	32	0	1	1	0
PARKERSBURG	60	40	72	35	50	-8	.2	-.6	.2	5.7	83	8.5	69	82	36	0	0	1	0
WI GREEN BAY	58	33	68	30	46	-3	.6	-.1	.3	3.6	80	6.2	91	91	37	0	3	2	0
LACROSSE	63	34	78	28	49	-4	.9	.2	.9	3.9	80	5.0	75	91	28	0	2	1	1
MADISON	60	33	74	27	47	-5	.4	-.3	.3	3.9	74	6.1	84	90	39	0	3	2	0
MILWAUKEE	56	36	66	33	46	-3	.7	-.1	.5	5.4	92	10.0	113	86	44	0	0	2	0
WAUSAU	60	33	72	28	47	-3	.5	-.3	.2	3.5	73	3.9	59	88	28	0	4	3	0
WY CASPER	63	29	77	17	46	-1	.1	-.4	.1	1.4	58	2.5	72	79	24	0	5	1	0
CHEYENNE	62	33	75	22	47	1	T	-.4	T	3.2	143	4.3	143	75	26	0	3	1	0
LANDER	62	33	73	20	47	1	T	-.6	T	2.3	70	2.7	62	77	23	0	4	1	0
SHERIDAN	58	29	75	11	44	-4	.4	-.2	.4	2.7	89	4.2	91	95	45	0	4	1	0
PR SAN JUAN	88	73	91	72	81	1	1.5	.4	.7	5.8	99	11.9	109	89	72	1	0	5	2

Based on 1951-80 normals

Heating Degree Days Summary Table

CLIMATE ANALYSIS CENTER—NMC—NWS—NOAA
ASSESSMENT AND INFORMATION SERVICES CENTER—NESDIS—NOAA

LAST DATE OF DATA COLLECTION PERIOD IS 4-30-1988
ACCUMULATIONS ARE FROM JULY 1
** = NORMAL LESS THAN 100 OR RATIO INCALCULABLE

STATE CITY	CALL	WEEK TOTAL	WEEK DEV FROM NORM	WEEK DEV FROM L YR	CUM TOTAL	CUM DEV FROM NORM	CUM DEV FROM L YR	CUM DEV FROM NORM PRCT	CUM DEV FROM L YR PRCT
AL BIRMINGHAM	BHM	39	25	29	2936	107	218	4	8
AL MOBILE	MOB	4	2	4	1822	127	131	7	8
AL MONTGOMERY	MGM	14	7	13	2311	43	149	2	7
AK ANCHORAGE	ANC	165	-10	5	8853	-1089	369	-11	4
AK BARROW	BRW	364	-51	-64	17211	-832	78	-5	0
AK FAIRBANKS	FAI	130	-58	-30	11992	-1587	-36	-12	0
AK JUNEAU	JNU	130	-29	-12	6773	-1411	-229	-17	-3
AK KODIAK	ADQ	188	12	15	7441	-286	494	-4	7
AK NOME	OME	196	-88	-59	12213	-700	620	-5	5
AZ FLAGSTAFF	FLG	138	-5	56	6295	-316	-297	-5	-5
AZ PHOENIX	PHX	0	-4	0	958	-484	72	-34	8
AZ PRESCOTT	PRC	71	-19	49	4054	-591	-329	-13	-8
AZ TUCSON	TUS	4	-5	4	1363	-363	-145	-21	-10
AZ WINSLOW	INW	53	-8	53	4479	-226	46	-5	1
AZ YUMA	YUM	0	-4	0	704	-279	37	-28	6
AR FORT SMITH	FSM	29	13	29	3364	-82	164	-2	5
AR LITTLE ROCK	LMI	31	17	27	3199	63	222	2	7
CA BAKERSFIELD	BFL	18	-3	18	1983	-106	-158	-5	-7
CA EUREKA	EKA	74	-30	12	3217	-816	-66	-20	-2
CA FRESNO	FAT	20	-10	20	2309	-284	237	-11	11
CA LOS ANGELES	LAX	35	-3	17	1095	-355	46	-24	4
CA SACRAMENTO	SAC	29	-9	22	2047	-622	-329	-23	-14
CA SAN DIEGO	SAN	20	-2	6	990	-182	-17	-16	-2
CA SAN FRANCISCO	SFO	41	-23	-1	2065	-740	-259	-26	-11
CA STOCKTON	SCK	32	1	28	2264	-354	-119	-14	-5
CO DENVER	DEN	62	-14	75	5755	55	335	1	6
CO GRAND JUNCTION	GJT	64	-4	61	5757	232	469	4	9
CO PUEBLO	PUB	79	8	58	5691	403	429	8	8
CT BRIDGEPORT	BDR	85	-4	-25	5356	84	187	2	4
CT HARTFORD	BDL	112	28	-14	6024	56	68	1	1
DE WILMINGTON	ILG	88	26	-1	4808	-50	59	-1	1
DC WASHINGTON	DCA	66	27	-6	4229	170	119	4	3
FL APALACHICOLA	AQQ	4	1	4	1474	64	334	5	29
FL DAYTONA BEACH	DAB	3	3	2	930	29	213	3	30
FL FORT MEYER	FMY	0	0	0	323	-117	98	-27	44
FL JACKSONVILLE	JAX	12	11	6	1509	192	261	14	20
FL KEY WEST	EYW	0	0	0	63	-53	22	-46	54
FL MIAMI	MIA	0	0	0	147	-51	14	-26	11
FL ORLANDO	MCO	0	0	0	619	-38	147	-6	31
FL TALLAHASSEE	TLH	12	9	9	1911	258	314	16	20
FL TAMPA	TPA	1	1	1	691	-48	237	-6	52
FL WEST PALM BEACH	PBI	0	0	0	224	-39	39	-15	21
GA ATLANTA	ATL	29	12	26	2736	-246	-44	-8	-2
GA AUGUSTA	AGS	24	16	3	2632	80	223	3	9
GA MACON	MCN	28	24	24	2455	185	208	9	9
GA SAVANNAH	SAV	11	11	9	1972	51	216	3	12
HI HILO-HAWAII	ITO	0	0	0	0	0	0	**	**
HI HONOLULU-OAHU	HNL	0	0	0	0	0	0	**	**
HI KAHULUI-MAUI	OGG	0	0	0	0	0	-1	**	**
HI LIHUE-KAUAI	LIH	0	0	0	0	0	0	**	**
ID BOISE	BOI	94	2	84	5146	-333	-215	-6	-4
ID LEWISTON	LWS	93	12	83	4588	-573	-141	-11	-3
ID POCATELLO	PIH	121	4	100	6285	-377	-178	-6	-3
IL CHICAGO	ORD	119	35	42	6219	15	596	0	11
IL MOLINE	MLI	101	31	48	6181	-128	593	-2	11
IL PEORIA	PIA	92	26	47	5899	-139	601	-2	11
IL QUINCY	UIN	80	22	47	5436	-202	450	-4	9
IL ROCKFORD	RFD	123	37	51	6791	71	766	1	13
IL SPRINGFIELD	SPI	88	32	49	5421	-78	367	-1	7
IN EVANSVILLE	EVV	88	48	50	4578	-49	175	-1	4
IN FORT WAYNE	FWA	109	28	28	6024	-67	330	-1	6
IN INDIANAPOLIS	IND	109	47	45	5479	-5	329	0	6
IN SOUTH BEND	SBN	128	42	35	6243	115	420	2	7
IA DES MOINES	DSM	84	18	61	6127	-262	600	-4	11
IA DUBUQUE	DBQ	116	26	51	7080	-53	788	-1	12
IA SIOUX CITY	SUX	93	21	62	6532	-242	772	-4	13
IA WATERLOO	ALO	109	19	60	7045	-257	677	-4	11
KS CONCORDIA	CNK	74	16	72	5232	-238	493	-4	10
KS DODGE CITY	DDC	80	26	75	4942	14	321	0	7
KS GOODLAND	GLD	88	3	81	5801	-51	560	-1	11
KS TOPEKA	TOP	71	21	63	4944	-259	303	-5	7
KS WICHITA	ICT	71	31	64	4798	68	326	1	7
KY BOWLING GREEN	BWG	80	44	49	4288	29	248	1	6
KY LEXINGTON	LEX	106	57	47	4631	-57	160	-1	4
KY LOUISVILLE	SDF	75	35	37	4347	-81	160	-2	4
LA ALEXANDRIA	AEX	2	-2	0	1892	-66	-77	-3	-4
LA BATON ROUGE	BTR	2	1	2	1590	-84	28	-5	2
LA LAKE CHARLES	LCH	0	0	0	1574	-5	-20	0	-1
LA NEW ORLEANS	MSY	3	3	3	1460	-29	32	-2	2
LA SHREVEPORT	SHV	2	-5	2	2298	37	-55	2	-2
ME CARIBOU	CAR	166	7	-19	8797	-231	-219	-3	-2
ME PORTLAND	PWM	135	7	-26	6771	-262	-157	-4	-2
MD BALTIMORE	BWI	81	27	-6	4701	103	157	2	3
MD SALISBURY	SBY	80	28	-1	4346	41	-29	1	-1
MA BOSTON	BOS	100	11	-53	5376	14	-244	0	-4
MA CHATHAM	CHH	118	-4	-23	5437	-101	-18	-2	0
MI ALPENA	APN	138	-2	5	7622	-251	454	-3	6
MI DETROIT	DTW	118	25	28	6142	-162	368	-3	6
MI FLINT	FNT	127	24	28	6643	-92	480	-1	8
MI GRAND RAPIDS	GRR	121	23	19	6680	60	530	1	9
MI HOUGHTON LAKE	HTL	139	13	15	7473	-349	447	-4	6
MI LANSING	LAN	130	30	24	6742	67	497	1	8
MI MARQUETTE	MQT	168	13	32	8841	-52	654	-1	8
MI MUSKEGON	MKG	132	24	30	6543	-36	425	-1	7
MI SAULT ST MARIE	SSM	153	-1	8	8440	-195	742	-2	10
MN ALEXANDRIA	AXN	108	-13	64	8201	-612	1044	-7	15
MN DULUTH	DLH	145	-5	23	9035	-251	852	-3	10
MN INT'L FALLS	INL	140	-7	32	9569	-460	1000	-5	12
MN MINNEAPOLIS	MSP	109	15	67	7435	-303	946	-4	15
MN ROCHESTER	RST	133	28	69	7957	1	961	0	14
MN SAINT CLOUD	STC	120	6	58	8142	-453	936	-5	13
MS GREENWOOD	GWO	16	6	13	2644	-61	132	-2	5
MS JACKSON	JAN	14	7	13	2422	41	138	2	6
MS MERIDIAN	MEI	15	8	11	2506	43	216	2	9
MO CAPE GIRARDEAU	CGI	71	41	56	4140	-200	210	-5	5
MO COLUMBIA	COU	80	30	61	5087	8	472	0	10
MO KANSAS CITY	MCI	67	18	57	5138	-26	461	-1	10
MO SAINT LOUIS	STL	63	20	44	4628	-195	255	-4	6
MO SPRINGFIELD	SGF	75	32	59	4737	193	444	4	10
MT BILLINGS	BIL	126	14	110	6077	-723	250	-11	4
MT GLASGOW	GGW	122	3	96	7364	-1151	478	-14	7
MT GREAT FALLS	GTF	139	15	118	6444	-832	494	-11	8
MT HAVRE	HVR	136	17	100	7183	-1028	407	-13	6
MT HELENA	HLN	128	0	98	6868	-744	-220	-10	-3
MT KALISPELL	FCA	144	15	94	7044	-697	-248	-9	-3
MT MILES CITY	MLS	120	15	102	6602	-949	333	-13	5
MT MISSOULA	MSO	136	13	109	6770	-507	-237	-7	-3
NE GRAND ISLAND	GRI	87	17	78	6192	-121	781	-2	14
NE LINCOLN	LNK	79	16	66	5791	-436	562	-7	11
NE NORFOLK	OFK	93	16	83	6518	-307	826	-4	15
NE NORTH PLATTE	LBF	94	3	85	6625	-3	926	0	16
NE OMAHA	OMA	72	12	69	5937	-119	627	-2	12
NE SCOTTSBLUFF	BFF	102	2	94	6580	185	572	3	10
NE VALENTINE	VTN	110	10	83	7155	96	955	1	15
NV ELY	ELY	130	-15	59	6723	-336	-127	-5	-2
NV LAS VEGAS	LAS	5	-14	5	2302	-210	56	-8	2
NV RENO	RNO	95	-14	72	4746	-845	-223	-15	-4
NV WINNEMUCCA	WMC	98	-16	63	5538	-426	-355	-7	-6
NH CONCORD	CON	124	8	-30	7144	29	102	0	1
NJ ATLANTIC CITY	ACY	100	28	-11	5051	147	68	3	1
NM ALBUQUERQUE	ABQ	42	-6	27	4000	-338	-565	-8	-12
NM CLOVIS	CVS	29	-16	21	3603	-404	-347	-10	-9
NM ROSWELL	ROW	15	0	-1	3339	223	-208	7	-6
NY ALBANY	ALB	125	27	-3	6649	0	117	0	2
NY BINGHAMTON	BGM	148	35	10	6977	11	540	0	8
NY BUFFALO	BUF	137	30	20	6140	-334	69	-5	1
NY NEW YORK	LGA	76	11	-26	4693	-80	165	-2	4
NY ROCHESTER	ROC	144	41	19	6454	37	119	1	2
NY SYRACUSE	SYR	134	33	17	6424	-59	122	-1	2
NC ASHEVILLE	AVL	63	17	2	4438	276	316	7	8
NC CAPE HATTERAS	HAT	32	5	-29	2683	35	163	1	6
NC CHARLOTTE	CLT	34	13	-8	3273	-22	82	-1	3
NC GREENSBORO	GSO	56	25	5	3929	124	103	3	3
NC NEW BERN	EWN	25	11	-17	2617	-215	-91	-8	-3
NC RALEIGH DURHAM	RDU	54	31	2	3600	119	112	3	3
NC WILMINGTON	ILM	26	19	-7	2540	80	76	3	3
ND BISMARCK	BIS	113	-6	68	8015	-649	570	-7	8
ND FARGO	FAR	110	-8	58	8385	-580	890	-6	12
ND GRAND FORKS	GFK	113	-14	56	8757	-663	692	-7	9
ND WILLISTON	ISN	118	-4	76	7991	-823	554	-9	7
OH AKRON-CANTON	CAK	135	49	24	5990	9	315	0	6
OH CLEVELAND	CLE	125	34	21	5890	-35	287	-1	5
OH COLUMBUS	CMH	117	49	32	5421	-76	393	-1	8
OH CINCINNATI	CVG	111	52	49	5149	49	380	1	8
OH DAYTON	DAY	109	43	26	5535	21	326	0	6
OH TOLEDO	TOL	118	27	22	6177	-129	368	-2	6
OH YOUNGSTOWN	YNG	133	37	16	6169	-89	284	-1	5
OK OKLAHOMA CITY	OKC	42	18	42	3690	-6	137	0	4
OK TULSA	TUL	42	21	42	3671	-22	109	-1	3
OR ASTORIA	AST	109	-1	34	4310	-304	203	-7	5
OR BURNS	4BW	148	18	98	6529	68	-45	1	-1
OR MEDFORD	MFR	78	-7	59	3689	-790	-393	-18	-10
OR PENDLETON	PDT	93	11	59	4791	-188	-172	-4	-3
OR PORTLAND	PDX	85	-2	48	3834	-487	23	-11	1
OR SALEM	SLE	88	-10	36	4156	-363	-47	-8	-1
PA ALLENTOWN	ABE	103	26	-6	5723	97	219	2	4
PA ERIE	ERI	140	27	19	5922	-458	121	-7	2
PA HARRISBURG	CXY	98	36	6	5410	227	203	4	4
PA PHILADELPHIA	PHL	84	27	-3	4795	-32	141	-1	3
PA PITTSBURGH	PIT	126	49	19	5596	-134	179	-2	3
PA SCRANTON	AVP	122	35	11	6220	125	175	2	3
RI PROVIDENCE	PVD	100	7	-24	5567	-83	-13	-1	0
SC CHARLESTON	CHS	18	11	7	2160	19	183	1	9
SC COLUMBIA	CAE	31	24	3	2886	278	234	11	9
SC FLORENCE	FLO	25	16	0	2629	85	81	3	3
SC GREENVILLE	GSP	45	25	17	3435	235	132	7	4
SD ABERDEEN	ABR	107	3	64	7743	-487	844	-6	12
SD HURON	HON	109	9	88	7555	-250	1180	-3	19
SD RAPID CITY	RAP	108	-3	86	6417	-503	212	-7	3
SD SIOUX FALLS	FSD	114	17	85	7444	-159	1019	-2	16
TN CHATTANOOGA	CHA	47	26	31	3491	-33	294	-1	9
TN KNOXVILLE	TYS	66	39	17	3921	323	245	9	7
TN MEMPHIS	MEM	28	14	20	3104	-80	151	-3	5
TN NASHVILLE	BNA	72	46	48	3787	63	228	2	6
TX ABILENE	ABI	9	2	9	2717	112	-89	4	-3
TX AMARILLO	AMA	60	18	44	4507	366	137	9	3
TX AUSTIN	AUS	0	0	0	1715	-47	41	-3	2
TX BROWNSVILLE	BRO	0	0	0	712	103	19	17	3
TX CORPUS CHRISTI	CRP	0	0	0	1055	85	-28	9	-2
TX DEL RIO	DRT	0	0	-1	1658	148	47	10	3
TX EL PASO	ELP	17	10	6	2778	114	-305	4	-10
TX FORT WORTH	DFW	6	-1	6	2474	170	-9	7	0
TX GALVESTON	GLS	0	0	0	1209	-45	-30	-4	-2
TX HOUSTON	IAH	0	-4	0	1561	11	4	1	0
TX LUBBOCK	LBB	18	-6	17	3485	2	-111	0	-3
TX MIDLAND ODESSA	MAF	7	-5	-2	2868	215	-197	8	-6
TX BEAUMONT	BPT	0	-2	0	1462	-23	-5	-2	0
TX SAN ANGELO	SJT	7	0	6	2546	237	-122	10	-5
TX SAN ANTONIO	SAT	0	-1	0	1814	6	-48	0	-3
TX VICTORIA	VCT	0	0	0	1318	44	12	3	1
TX WACO	ACT	2	-2	2	2193	68	-61	3	-3
TX WICHITA FALLS	SPS	29	16	28	3112	116	48	4	2
UT BLANDING	4BL	88	-12	67	5625	-217	-24	4	0
UT CEDAR CITY	CDC	94	-9	63	5677	20	-51	0	-1
UT SALT LAKE CITY	SLC	85	-1	85	5278	-262	-94	-5	-2
VT BURLINGTON	BTV	143	22	-7	7193	-386	85	-5	-1
VA LYNCHBURG	LYH	94	23	-3	4957	733	649	17	15
VA NORFOLK	ORF	56	25	-17	3403	6	-16	0	0
VA RICHMOND	RIC	63	31	-8	4053	154	11	4	0
VA ROANOKE	ROA	74	31	9	4283	74	2	2	0
WA COLVILLE	63S	123	15	91	6147	-523	387	-8	7
WA QUILLAYUTE	UIL	119	-1	34	4725	-501	75	-10	2
WA SEATTLE-TACOMA	SEA	117	4	47	4106	-546	50	-12	1
WA SPOKANE	GEG	126	16	95	6011	-407	-91	-6	-1
WA WALLA WALLA	ALW	80	11	59	4463	-122	-100	-3	-2
WA YAKIMA	YKM	111	22	80	5410	-276	-118	-5	-2
WV BECKLEY	BKW	121	52	15	5205	-137	-4	-3	0
WV CHARLESTON	CRW	100	51	32	4575	12	120	0	3
WV [illegible]	HTS	99	50	38	4551	10	139	0	3
WV PARKERSBURG	PKB	103	50	23	4968	156	193	3	4
WI GREEN BAY	GRB	133	19	28	7548	-195	682	-3	10
WI LACROSSE	LSE	113	26	57	7026	-275	717	-4	11
WI MADISON	MSN	127	27	34	7187	-140	682	-2	10
WI MILWAUKEE	MKE	130	16	24	6879	-350	593	-4	10
WI WAUSAU	AUW	128	13	34	7831	-343	726	-4	10
WY CASPER	CPR	133	2	106	7022	-119	223	-2	3
WY CHEYENNE	CYS	121	-12	76	6913	120	400	2	6
WY LANDER	LND	121	-10	106	6989	-423	-267	-6	-4
WY SHERIDAN	SHR	148	21	124	6750	-589	328	-8	5

National Agricultural Summary

April 25 to May 1, 1988

HIGHLIGHTS: Precipitation interrupted planting in the central and southern Great Plains but provided much needed moisture. Corn planting surged ahead of normal. Small grains continued suffering from the lack of moisture in the northern Great Plains. Topsoil moisture declined in the Delta and Southeast. Soil moisture was becoming critically short in the northern Great Plains. Fieldwork averaged 4 to 6 days in most areas of the Nation.

Corn was 36 percent (%) seeded, compared with 43% in 1987 and the 24% 5-year average. Planting surged 21 percentage points ahead of the previous week. Soybeans were 2% seeded and underway in virtually all States. Cotton seeding progressed normally in the 14 major producing States at 33% completion. Rain halted seeding in Oklahoma. Cotton began squaring in Texas. Grain sorghum was 19% planted, trailing 1 point behind normal. Rice was 54% seeded and 20% emerged. Winter wheat was 10% headed, 7 points below normal. Disease, insects, and the lack of moisture plagued wheat in the central and northern Great Plains. Spring wheat was 78% seeded, nearly doubling the average. Livestock was mostly good.

SMALL GRAINS: Winter wheat development continued lagging behind normal in most major producing States. Heading was 10% finished, compared with 18% in 1987 and 17% normally. Heading had not begun in most Corn Belt States, the central and northern Great Plains, Pacific Northwest, and Rocky Mountain States. Winter wheat was mostly good to fair, but dryness kept condition mostly fair in the northern Great Plains.

Cooler temperatures slowed small grain progress in Texas. Nineteen percent of the acreage reached the heading stage, compared with the 51% average. Small grains turned color in many central and southern areas, and harvest was underway at Coastal Bend. Fields matured rapidly in the Blacklands. Heading increased significantly in western and southern Oklahoma, but nitrogen shortage may reduce protein content. Foliar disease was evident in northern Oklahoma. Russian wheat aphids continued spreading. Wheat suffered light freeze damage in several areas of Kansas, but light wind damage was most noticeable in southwestern areas. Russian wheat aphid population increased in the western third of the State, but chinch bugs were more common in central and eastern areas. Wheat streak mosaic was the prevalent disease ranging from light to severe. Moisture stress, disease, and insects concerned growers in many counties. Nebraska's wheat growers anticipated problems with wheat streak mosaic in the Panhandle, southwest, and east-central areas.

Cooler temperatures slowed small grain development in California. Hail caused light damage overall, but some was locally heavy in the San Joaquin Valley. Early planted small grains neared maturity in western Arizona.

Spring wheat was 78% seeded, surging 18 points ahead of the previous week. Planting ended the week 17 points ahead of 1987 and 36 points above the average. Nineteen percent of the acreage was emerged, slightly ahead of normal but 7 points below 1987.

CORN: Corn producers seeded slightly more than one-fifth of their acreage in 1 week, reaching 36% completion. This compares with 24% seeded normally. Planting was ahead of normal in virtually all States. Illinois seeding climbed 38 points ahead of the previous week to 60% completion. In the Corn Belt and central Great Plains States, planting increased by 19 points or more. Below-normal temperatures slowed germination in some areas.

SOYBEANS: Soybean planting was starting in most major producing States. The States with the largest percentage of the acreage seeded was Alabama with 8%, and Illinois and Ohio's acreage was each 4% seeded. Planting had not begun in Iowa, Kansas, Michigan, South Carolina, and South Dakota.

COTTON: Cotton was 33% seeded, 2 points ahead of the normal pace. In Alabama, seeding more than doubled the previous week at 63% completion. Mississippi growers planted 32% of their acreage in 1 week. In North Carolina, planting trailed 25 points behind normal, while New Mexico's producers pushed seeding 25 points above normal. Despite the 16-point gain, planting still lagged 30 points behind the average in South Carolina. In central Arizona, growers concentrated on replanting due to damage from rain and cool weather. Seeding increased in California but was slowed by showers and cool weather. Earlier rain, hail, and crusting soils caused some replanting. In Texas, low soil temperatures restricted planting in many areas of the Plains. Cotton began squaring at Coastal Bend and in the Rio Grande Valley.

SORGHUM: Sorghum seeding reached 19% completion, compared with 21% in 1987 and the 20% average. Planting was underway in all major producing States except Kansas and South Dakota. Wetness halted planting in Oklahoma and limited Texas to a 1-point gain. Planting progressed rapidly in the Delta but was still 23 points behind normal in Louisiana.

OTHER CROPS: Rice planting leaped 24 points ahead of the previous week to 54% completion. Planting went from 6 points below normal the previous week to 5 points ahead of normal this week. Emergence trailed 17 points below the average.

Peanut planting trailed behind normal throughout most of the Southeast and Texas. Alabama was the exception with 38% planted, 8 points above normal. Peanut seeding was 9 points behind normal in Georgia, 15 points in Virginia, and 16 points in South Carolina.

Tobacco transplanting progressed normally in the Southeast. Tobacco plants ranged from emerging to silver dollar size in Kentucky. Tobacco transplanting was underway in Tennessee.

FRUITS AND NUTS: Rain ended the dry spell in Florida's citrus belt. Irrigation was needed early in the week to maintain good tree condition. The lack of moisture caused fruit softening in the driest areas. Trees shed new fruit unwanted for next season's crop. Texas citrus groves were good but producers irrigated heavily. Early variety cherry harvest was underway in California. Bing cherry harvest is expected to begin in mid May. Coachella Valley table grape harvest should begin next week. Valencia orange harvest gained momentum. Valencia orange and grapefruit harvests progressed well in central and western Arizona.

VEGETABLES: Rain benefited Florida's vegetables. Harvest declined seasonally in southern areas but was active in central Florida. Celery, carrot, and cabbage harvests declined seasonally in the Rio Grande Valley. Planting and harvesting continued in east Texas. California vegetable harvest consisted mostly of artichoke, broccoli, asparagus, cauliflower, carrots, and lettuce.

PASTURES AND LIVESTOCK: Pastures were mostly fair to good. Pastures provided ample forage in the Delta and Southeast. Livestock was mostly good.

State Summaries of Weather and Agriculture

ALABAMA: Rainfall totals mostly under 0.33 in.; near 1.00 in. local areas east central. Temperatures averaged 6 to 9° below normal north, central; 3 to 5° below normal south. Extensive hail Montgomery area; scattered frost north.

Days suitable for fieldwork 4.5. Soil moisture 21% short, 74% adequate, 5% surplus. Cool temperatures slowed most field activities. Acreage intended for spring planting 86% prepared, 82% 1987. Corn 89% planted, 89% 1987, 77% avg. Sorghum 24% planted, 16% 1987, 17% avg. Cotton 63% planted, 71% 1987, 43% avg. Peanuts 38% planted, 25% 1987, 30% avg. Soybeans 8% planted, 6% 1987, 4% avg. Wheat 75% headed, 74% 1987, 69% avg.; 23% turning color, 15% 1987, 11% avg.; 32% fair, 66% good, 2% excellent. Stored feed supplies 46% short, 51% adequate, 3% surplus. Livestock, pastures mostly good to fair. Primary activities: Land preparation, seeding spring crops; applying fertilizer, herbicides to cropland; applying fungicide sprays to fruits, nuts, vegetables; cutting, baling hay; stocking fish ponds; routine care livestock, poultry.

ARIZONA: Sunny skies, drier air, warming trend 24th to 27th. Weak weather disturbance 28th, cooler air, scattered light showers, isolated thunderstorms eastern two-thirds. Abundant sunshine, warmer temperatures last 2 days of month. Strong gusty winds statewide afternoon, evening 30th. Average temperatures 3° below to 5° above normal.

Cotton planting resumed as favorable weather returned. Statewide 80% planted, down 9% from 1987, down 10% from avg. Replanting, planting dominated week's activities west. Many growers applied, preparing to apply post-emergence irrigation. Central growers concentrated on replanting due to damage from rains, cool weather. Some frost kill on seedling stands southeast. Alfalfa good to excellent. Regrowth continued. Elsewhere, irrigation continued. Small grains 90% planted west, early plantings neared maturity. Irrigation continued statewide. West artichoke harvest continued Parker area. Cantaloups, watermelons, honeydews continued to progress. Fruit developing, sizing normally with weed control some fields. Grapes making good progress. Red potatoes harvested, shipped central. Lettuce harvest continued Aguila. Assorted vegetables harvested, shipped Salt River Valley. Dry onion harvest underway. Eastern lettuce thinning, chili planting. Valencia orange, grapefruit harvest continued central, west. Groves good. Ranges adequate; rains received late April. Northern areas received 2.00 to 3.00 in. rain. Precipitation should provide adequate supply of stockwater until late spring. Lower elevations over 1.00 in. rain, revitalized ranges, provided adequate feeding. Rain improved range conditions southwest. Ranges higher elevations 85% of normal, mid-elevations 90%, desert 95%. Feed supplies average. Soil moisture, stockwater adequate. Cattle, calves mostly good; sheep, lambs good. Insect damage minimal all areas.

ARKANSAS: Cool, dry. Temperatures below normal. Light rain first part week. Temperature extremes 32°; 84°. Rainfall totals none to 0.15 in.

Days suitable for fieldwork 6.0. Soil moisture supplies 23% short, 75% adequate, 2% surplus. Cotton 10% poor, 34% fair, 56% good. Rice 3% poor, 39% fair, 49% good, 9% excellent. Soybeans less than 5% planted. Sorghum 5% poor, 41% fair, 49% good, 5% excellent. Corn 89% planted, 89% 1987, 78% normal; 1% poor, 23% fair, 57% good, 19% excellent. Alfalfa hay cutting underway; 1% poor, 13% fair, 86% good. Other hay 21% fair, 79% good. Tomatoes being staked, tied. Strawberry harvest underway. Peach potential good. Pastures providing ample forage. Livestock good.

CALIFORNIA: Cool temperatures prevailed early week, little rain many areas. Weather warmed up, dried out during later part of week. Precipitation all areas still well behind normal.

Rain first part, cool weather slowed fieldwork. Seeding cotton increased, still slow due showers, cool. Earlier rain, hail caused replanting some, crust break tillage others. Rice seeding good progress, full swing weekend. Harvest alfalfa, small grains, hay, silage, green-chop active. Windrowed hay damaged early. Rodent controls seed alfalfa. Harvest overwintered sugarbeets progressed. Most small grains headed. Sheeping-off some dryland. Cooler temperatures slowed development. San Joaquin Valley hail damage light overall, some locally heavy. Apricot harvest near. Early variety cherry picking underway. Bing cherry harvest set for mid May. Grapes treated for mildew, grapeleaf skeletonizer. Coachella Valley table grape harvest begins next week. Lemons 60% harvested south coast; 90% San Joaquin Valley. Navel orange harvest winding down, valencia harvest gained momentum. Almond nut, pistachio bud sets heavy. Walnuts treated for blight, codling moth. Artichoke harvest continued, heavy volume, good quality Castroville; harvest active San Mateo. Asparagus cut Sacramento Valley, Delta. Broccoli heavy, good quality, Salinas, Santa Maria; harvest continued Merced-Atwater, Riverside, Westside. Cauliflower movement moderate, good quality, Salinas, Santa Maria. Carrot digging continued Sacramento Valley; Riverside. Lettuce supplies moderate, variable quality, Salinas; decreasing supplies, variable quality, central San Joaquin Valley. Lettuce harvest light, Westside. Some early melon fields replanted Sacramento Valley. Sweetpotato planting began Merced-Atwater. Strawberry volume decreased Salinas, Santa Maria; harvest active south coast. Fresh tomatoes planted Merced-Atwater. Livestock good statewide. Many herds culled being moved off poor rangeland onto irrigated pastures. Rains benefited grass higher elevations too late for lower pastures. Cattle movement very active some areas.

COLORADO: Scattered showers during week. Precipitation none to 0.23 in. Average temperature 2 to 5° below normal.

Days suitable for fieldwork 5.7. Soil moisture supplies 7% very short, 29% short, 62% adequate, 2% surplus. Winter wheat 32% jointed. Barley 89% seeded, 47% emerged. Fall potato plantings just underway. Livestock good, death losses average. Calving 87%, lambing 84%. Stored feed supplies adequate. Ranges, pastures good.

FLORIDA: Stationary front north; areas of light rain near front moved south as low pressure area developed along front, allowing it to move south, pushing areas of light rain southward 27th. On 28th secondary, dry cold front moved through State, clearing skies. Moist low pressure area 30th, moved quickly from Gulf across State with rains averaging 1.00 to 3.00 in. Gusty winds accompanied low pressure system. By 1st, most rain over southern half of State as low pressure area moved eastward; cold front moved south. Temperatures mostly above normal first half, below normal afterwards.

Soil moisture short along upper eastern Peninsula; short to adequate elsewhere. Peanut planting active. Cotton planting started. Land preparation soybeans, sorghum continued. Irrigation active tobacco. Sidedressing corn underway. Wheat into hard dough stage. Sugarcane making good growth. General weekend rains stimulated grass, helped relieve dry pastures; however, grazing remained light, drier localities. Pastures very poor to fair most of Panhandle, fair to good or better extreme northern, southern

Peninsula, poor to mostly fair elsewhere. Cattle fair to good depending largely on amount, quality of forage available. Badly needed rain received 30th, ended 2 week dry spell, citrus belt. Irrigation active all areas earlier week to maintain good tree condition. Trees shedding new fruit unwanted for next season's crop. In areas driest before weekend rain, some fruit softening continued evident. Valencia harvest very active. Grapefruit movement slowed, honey tangerine harvest almost completed. Warm days, cool nights vegetable producing areas. Weekend rain beneficial all areas. Crops fair to good. Harvest many crops declined seasonally south, active central. Volume leaders: Tomatoes, potatoes, cucumbers, sweet corn, peppers, celery, cabbage. Also good volume squash, lettuce, snap beans, carrots, radishes, watermelons. First ruskin tomatoes packed.

GEORGIA: Cool week temperatures 6 to 9° below normal north, 2 to 8° below south. Highs mid, upper 70s north; around 80° central, upper 80s south. Rain under 0.20 in. north, 1.00 to 3.00 in. central, south.

Days suitable for fieldwork 3.9. Soil moisture 1% very short, 8% short, 71% adequate, 20% surplus. Corn 12% fair, 78% good, 10% excellent. Cotton 10% poor, 35% fair, 55% good. Sorghum grain 21% fair, 69% good, 10% excellent; planting behind average, crop mostly good. Peanuts 5% poor, 27% fair, 67% good, 1% excellent; 29% planted, 23% 1987, 36% avg.; planting very active, fair to mostly good. Soybean planting slow start. Tobacco mostly good; 98% transplanted, 98% 1987, 98% avg. Watermelons fair to mostly good, planting slightly ahead of average. Wheat 100% boot, 97% 1987, 96% avg. Small grains good. Peaches, apples good. Pastures mostly good. Cattle, hogs mostly good.

HAWAII: Variable weather, fair for agriculture. Temperatures low 70s to mid 80s. Rainfall none to 6.50 in. Trade winds brisk 10 to 30 mph, trade winds likely caused light damage to exposed crops. Moderate showers windward areas slowed farming, crop progress.

Days suitable for fieldwork 7.0. Large brush fire on Molokai over weekend. Under control morning of 2nd. Agricultural damage limited to charred pasture land. Crops statewide fair to good. Papaya harvesting active. Banana production steady. Head cabbage output moderate, steady. Chinese cabbage output moderate, good quality. Head lettuce harvest light. Watermelon heavy for time of year with increase expected. Tomato production steady. Ginger root activity slowed by rains.

IDAHO: Temperatures below normal end of week. Precipitation varied.

Days suitable for fieldwork 6.0. Soil moisture 3% very short, 44% short, 53% adequate. Irrigation water supplies fair, good. Spring wheat 77% seeded, 92% 1987, 69% avg.; 54% emerged. Winter wheat good, 20% jointed. Barley 76% seeded, 87% 1987, 54% avg.; 51% emerged. Oats 59% seeded, 30% emerged. Potatoes 36% planted, 39% 1987, 30% avg. Sugarbeets 77% emerged. Onion emergence virtually complete, 87% 1987, 63% avg. Corn 27% planted. Dry peas 56% planted, 96% 1987. Lentils 46% planted, 85% 1987. Hay, roughage supplies good. Livestock good.

ILLINOIS: Temperatures averaged 1 to 3° below normal west central, 4 to 8° below normal elsewhere. Precipitation averaged 0.30 to 0.40 in. northern most sections, negligible elsewhere.

Days suitable for fieldwork 5.8. Soil moisture 54% short, 46% adequate. Oats 95% planted, 100% 1987, 85% avg. Alfalfa 17% fair, 73% good, 10% excellent. Pasture 3% poor, 22% fair, 72% good, 3% excellent; supplying livestock roughage requirement 61%, 73% 1987, 68% avg.

INDIANA: Temperatures 3 to 7° below normal. Lows upper 20s to lower 30s, highs 70s to 80s. Precipitation below normal. Totals 0.25 to 0.50 in. north, below 0.25 in. elsewhere. Soil temperatures below normal.

Days suitable for fieldwork 5.7. Topsoil moisture 36% short, 64% adequate. Subsoil moisture 20% short, 80% adequate. Spring cropland 92% tilled, 92% 1987, 81% avg. Wheat 12 in. high, 12 in. 1987, 10 in. avg.; 48% jointed, 47% 1987, 43% avg. Oats 96% seeded, 96%, 1987, 89% avg. Oats 4 in. high, 4 in. 1987, 4 in. avg. Clover 95% seeded, 93% 1987, 87% avg. Pastures 12% poor, 50% fair, 36% good, 2% excellent. Ideal conditions for planting, tilling.

IOWA: Temperatures near normal. Precipitation below normal. Rain, snow north, light rain south. Temperature extremes 26° Belle Plains 29th, 80° Storm Lake 1st.

Days suitable for fieldwork 4.2. Topsoil moisture 50% short, 48% adequate, 2% surplus; subsoil moisture 33% short, 67% adequate. Winter wheat 1% very poor, 9% poor, 31% fair, 50% good, 9% excellent. Hay 1% very poor, 13% poor, 37% fair, 45% good, 4% excellent. Oats 70% emerged, 67% 1987, 46% avg.; 4% poor, 41% fair, 49% good, 6% excellent. Seedbed preparation 93%; fertilizer application 90%, 83% 1987, 70% avg. Pastures 5% very poor, 18% poor, 36% fair, 37% good, 4% excellent. Livestock mostly good. Dusty feedlots turned into muddy lots early week. Snow caused some stress in calves.

KANSAS: Temperatures averaged 56° north central to 58° eastern third. Northwest 4° above normal, below normal elsewhere. Precipitation heaviest south, 0.25 to 0.75 in., isolated areas 1.00 in. North central 0.50 to 1.00 in., 0.10 in. or less elsewhere.

Days suitable for fieldwork 5.5. Topsoil moisture 54% short, 40% adequate, 6% surplus. Subsoil 37% short, 60% adequate, 3% surplus. Wheat 85% jointing, 90% 1987, 70% avg. Light freeze damage several areas. Light wind damage, especially southwest. Russian wheat aphid population continued increasing western third, light to moderate. Chinch bugs more common central, east; wheat, other small grains. Wheat streak mosaic most prevalent disease, light to severe. Severely affected fields ragged, uneven growth caused by disease. Powdery mildew continued active central, east; moved up to middle leaves many cases. Moisture stress, plus Russian wheat aphid, wheat streak mosaic major concern many counties. Alfalfa weevil eastern two-thirds, light to severe. Treatment completed many areas. Spring black stem increased central, east; defoliation some areas. Growth slowed, cool weather. Lack of moisture concern expressed by many counties, especially for maturing wheat. Range, pastures good statewide; best conditions southeast, worst northwest. Pastures supplying 55% roughage requirements. Feed grains, hay, forage adequate.

KENTUCKY: Cool, very dry. Spotty amounts of rain extreme northeast, east 28th. Less than 0.10 in. Temperatures averaged 4 to 6° below normal. Lows 30s, highs 60s to lower 70s. Warmer temperatures over weekend, highs reaching 70s 1st.

Days suitable for fieldwork 5.5. Soil moisture 12% very short, 61% short, 28% adequate. Corn planting progressed well, 11% emerged. Cool, dry conditions slowed development. Soybean planting underway. Tobacco growers watering beds. Plants range from just emerged to silver dollar size. Wheat 15% headed. Hay mostly good. Pastures fair to good. Some alfalfa harvest begun. Weevil continued to be problem. Fruits 7% poor, 37% fair, 51% good, 5% excellent.

LOUISIANA: Temperatures normal to 3° below normal. Temperature extremes 45°; 92°. Rainfall averaged none to 1.94 in.

Days suitable for fieldwork 6.7. Soil moisture 2% very short, 50% short, 46% adequate, 2% surplus. Spring plowing 92%, 91% 1987, 81% avg. Corn fair to good; 95% planted, 91% 1987, 91% avg.; 77% emerged, 80% 1987, 85% avg. Cotton 9% emerged; sorghum 12% emerged; both well behind normal. Sweetpotatoes 16% planted, 11% 1987, 15% avg. Winter wheat fair to good; 98% headed, 95% 1987, 88% avg.; 20% turning color, 30% 1987, 31% avg. Hay 1st cutting 7%, 13% 1987, 10% avg. Livestock good. Sugarcane, vegetables, pastures fair to good. Harvesting strawberries, crawfish, vegetables. Winter wheat yield could be reduced due to wheat scab disease. Main activities: Spring plowing; fertilizing pastures; planting corn, cotton, rice, sorghum, sweetpotatoes, vegetables; cutting hay.

MARYLAND & DELAWARE: Maryland: Precipitation averaged 0.76 in. Precipitation since March 1st 2.06 in. below normal. Average temperature 54°, normal 57°. Temperature extremes 27°; 77°. Snow in mountains.

Days suitable for fieldwork 5.1. Topsoil moisture adequate. Subsoil moisture 30% short, 70% adequate. Acreage 75% prepared for planting 75%, 70% 1987. Corn 25% planted, 20% 1987. Sweet corn 20% planted, 25% 1987. Wheat, oats, barley, rye good. Apples 55% in bloom.

Delaware: Precipitation averaged 0.65 in. Precipitation since March 1st 1.96 in. below normal. Average temperature 54°, normal 57°.

Days suitable for fieldwork 5.6. Topsoil moisture 20% short, 80% adequate. Subsoil moisture 30% short, 70% adequate. Acreage 65% prepared for planting, 70% 1987. Corn 25% planted, 30% 1987. Sweet corn 45% planted, 30% 1987. Potatoes 98% planted, 90% 1987. Wheat, barley, rye good.

MICHIGAN: Temperatures ranged 3° below normal to normal. Temperature extremes 25°; 71°. Precipitation ranged none to 0.91 in. across State.

Days suitable for fieldwork 4.0. Soil moisture 15% short, 65% adequate, 20% surplus. Corn 5% planted, 20% 1987, 10% avg. Oats 60% planted, 90% 1987, 55% avg. Potatoes 10% planted, 15% 1987, 15% avg. Sugarbeets 75% planted, 98% 1987, 65% avg. Wheat 2% very poor, 8% poor, 25% fair, 50% good, 15% excellent. Activities: Spring tillage, fertilizer application, oats, sugarbeet planting. Fruit development, vegetable planting behind.

MINNESOTA: Temperatures averaged 1 to 3° below normal southern third, 1 to 4° above normal elsewhere. Temperature extremes 19°; 81°. Precipitation averaged 0.07 to 0.36 in. above normal southern third, 0.21 to 0.53 in. below normal elsewhere. Greatest weekly total 1.55 in.

Days suitable for fieldwork 4.2. Topsoil moisture 26% very short, 28% short, 44% adequate, 2% surplus. Spring wheat 87% planted, 87% 1987, 46% avg.; 19% emerged, 43% 1987, 15% avg. Oats 92% planted, 90% 1987, 54% avg.; 28% emerged, 61% 1987, 22% avg. Barley 78% planted, 85% 1987, 40% avg.; 12% emerged, 26% 1987, 10% avg. Corn 60% land prepared, 79% 1987, 33% avg.; 21% planted, 58% 1987, 16% avg. Soybeans 23% land prepared, 43% 1987, 13% avg.; 1% planted, 7% 1987, 1% avg. Sunflowers 1% planted, 10% 1987, 2% avg. Flax 10% planted, 12% 1987, 4% avg. Sugarbeets 95% planted, 83% 1987, 39% avg. Potatoes 22% planted, 27% 1987, 12% avg. Green peas 50% planted, 63% 1987, 35% avg. Sweet corn 8% planted, 17% 1987, 5% avg.

MISSISSIPPI: Average temperatures 3° above south to 10° below normal north. Average rainfall 0.03 in.

Days suitable for fieldwork 5.3, 6.0 1987, 4.1 avg. Soil moisture 24% short, 69% adequate, 7% surplus. Planting moved ahead steadily. Corn fair to good; 75% planted, 80% 1987, 72% avg.; 53% emerged 1987, 52% avg. Wheat good; 79% heading, 80% 1987, 76% avg.; 0% mature. Rice 75% planted, 53% 1987, 53% avg.; 18% emerged, 7% 1987, 23% avg. Sorghum 53% planted, 36% 1987, 35% avg.; 19% emerged, 14% 1987. Cotton 36% planted, 39% 1987, 30% avg. Soybean 2% planted, 2% 1987, 2% avg. Livestock, pasture good. Peaches 12% very poor, 8% poor, 26% fair, 54% good. Peanut, watermelon, sweetpotato planting all jumped ahead of average.

MISSOURI: Temperatures 5° below normal except Bootheel 9° below normal. Dry, only isolated showers.

Days suitable for fieldwork 6.4. Topsoil moisture 71% short, 27% adequate, 2% surplus. Germination, growth of crops, pastures slow due to moisture shortage, cool weather. Tillage for spring crops 87%, 79% 1987, 68% avg. Pasture 2% very poor, 18% poor, 44% fair, 33% good, 3% excellent.

MONTANA: Temperatures normal to slightly below. Continued dry north central, northeast, southeast. Moderate to heavy precipitation southwest, south central; 0.25 to 1.25 in. central, western light to moderate amounts.

Days suitable for fieldwork 5.4. Topsoil moisture 69% short, 29% adequate, 2% surplus. Subsoil moisture 61% short, 37% adequate, 2% surplus. Barley 73% planted, 40% 1987, 50% avg.; 13% emerged. Oats 69% planted, 29% 1987, 39% avg. Sugarbeets 83% planted, 44% 1987, 40% avg. Calving 92%, 88% 1987, 87% avg. Lambing 88%, 78% 1987, 79% avg. Cattle, sheep death loss 47% below avg., 51% avg., 2% above avg.

NEBRASKA: Snow west, north central; rainfall remainder of State beginning of week. Precipitation ranged 0.25 to over 1.00 in. Temperatures averaged near normal. Extremes 20°; 85°.

Days suitable for fieldwork 4.3. Topsoil moisture 38% short, 62% adequate. Subsoil moisture 28% short, 72% adequate. Winter wheat 46% fair, 52% good, 2% excellent; 25% jointed, 59% 1987, 22% avg. Some Panhandle fields continued reaching treatment levels for Russian wheat aphids. Possible streak mosaic problems in Panhandle, southwest, east central. Corn 25% planted, 29% 1987, 12% avg. Oats 97% seeded, 93% 1987, 79% avg. Sorghum 1% planted, 2% 1987. Soybeans 1% planted equal to 1987. Cool soil temperatures slowed emergence of corn, small grains. Alfalfa hay 34% fair, 66% good. Wild hay mostly fair. Pasture, range feeds mostly adequate. Cattle moved to summer pastures. Some cattle fed supplemental hay due to slow spring grass growth.

NEVADA: High pressure system early gave way to series low pressure systems midweek with strongest storm end of period. These storms generally brought light precipitation north. Storm end of week lowered temperatures considerably. Greatest precipitation totals northeast.

Low temperatures, gusty winds, late week hampered planting small grains, potatoes, garlic, onions. Recent cold weather brought plant growth to standstill. Due to anticipated water shortages, possible drought conditions ranges, culling herds common most areas.

NEW ENGLAND: Cool. Average temperatures 3 to 5° below normal. Range 40° extreme north, low 50° south coast. Precipitation ranged 0.67 to 2.00 in. north to south coastal; 2.50 to 4.00 in. west; 1.00 to 3.00 in. south.

Days suitable for fieldwork 5.0. Soil moisture 15% very short, 45% short, 40% adequate. Grazing availability 20% short, 80% adequate. Fieldwork progress on schedule. Maine potatoes 0% planted. Connecticut River Valley potatoes 35% planted, 10% 1987, 5% avg. Rhode Island potatoes 10% planted,

10% 1987, 10% avg. Field corn less than 5% planted. Early sweet corn 15% planted south, 10% planted north. Oats 5% sown, 1% 1987, 1% avg. Hay good. Fruit trees in bud stage. Asparagus harvest active south. Major farm activities: Spreading manure, plowing, repairing fences, planting corn, spraying fruit, setting out early vegetables.

NEW JERSEY: Temperatures averaged much below normal. Extremes 26°; 75°. Rainfall averaged 1.12 in. north, 0.92 in. central, 0.59 in. south. Heaviest 24-hour total 1.42 in. on 27th, 28th. Estimated soil moisture percent field capacity averaged 97% north, south; 96% central, 94% south. Four inch soil temperatures averaged 49° north, 50° central, 51° south.

Crop growth delayed by continued below normal temperatures. Soil moisture generally adequate as result of scattered showers during period. Frost occurred morning of 26th. Apple, blueberry, strawberry bloom advanced. Early season vegetable harvest slowed by cool weather. Sweetpotato bed preparation well advanced. Oat planting complete. Soil preparation, fertilizing active. Field corn planting to be general next week. Fruit spraying active as condition permits.

NEW MEXICO: Average weekly temperatures near normal. Rain, snow late week at scattered locations. Some light to moderate wind, hail, freeze damage.

Days suitable for fieldwork 6.3. Soil moisture 82% short, 18% adequate. Barley 40% fair, 60% good. Wheat 30% poor, 50% fair, 20% good; 32% heading. Cotton 70% planted. Onions 25% fair, 75% good. Lettuce 50% fair, 50% good; harvest just getting underway. Cattle 10% poor, 40% fair, 50% good. Sheep 50% fair, 50% good. Range 30% poor, 70% fair.

NEW YORK: Cool, wet. Temperatures well below normal. Lows 20s, highs 50s most days. Significant precipitation 27th to 29th.

Days suitable for fieldwork 5.0. Fieldwork delayed by cold temperatures. Soil moisture adequate. Oats 30% seeded, 33% 1987, 34% avg. Corn 2% seeded, 4% 1987, 4% avg. Pastures, hay fair.

NORTH CAROLINA: Temperatures averaged 3 to 5° below normal across State. Temperature extremes 30°; 85°. Precipitation ranged none to 0.78 in.

Days suitable for fieldwork 5.6. Soil moisture 1% very short, 23% short, 71% adequate, 5% surplus. Oats 1% poor, 17% fair, 76% good, 6% excellent. Barley 13% fair, 79% good, 8% excellent. Rye 2% poor, 13% fair, 81% good, 4% excellent. Pasture 2% poor, 27% fair, 66% good, 5% excellent. Tobacco 30% transplanted, 21% 1987, 28% avg.; plantbeds 4% poor, 16% fair, 78% good, 2% excellent. Tobacco plant supply 8% short, 91% adequate, 1% surplus. Irish potatoes 3% poor, 27% fair, 65% good, 5% excellent. Peaches 3% poor, 20% fair, 74% good, 3% excellent. Truck crops 7% poor, 29% fair, 64% good. Sorghum 17% planted, 8% 1987, 14% avg. Major farm activities: Planting corn, sorghum; preparing land for spring planting; tending tobacco plantbeds; bedding land for tobacco transplanting; transplanting tobacco, peppers, truck crops; harvesting asparagus; fertilizing, spraying nursery crops; spraying alfalfa weevils; feeding livestock; general farm maintenance.

NORTH DAKOTA: Temperatures ranged 1 to 3° above normal. Extremes 14° west central; 86° west central. Precipitation variable; ranged none to 1.74 in.

Days suitable for fieldwork 6.6. Topsoil moisture improved, remained below average; 36% very short, 49% short, 15% adequate. Subsoil moisture below average; 36% very short, 44% short, 20% adequate. Winter wheat mostly fair, 4% jointing. Spring wheat 69% planted, 49% 1987, 32% avg.; durum 43%, 30% 1987, 19% avg.; barley 67%, 50% 1987, 30% avg.; oats 60%, 46% 1987, 31% avg.; flax 7%, 7% 1987, 5% avg.; corn 9%, 12% 1987, 5% avg.; potatoes 8%, 5% 1987, 6% avg.; sugarbeets 93%, 87% 1987, 44% avg.; soybeans 2%, 1% 1987, 1% avg. Calving 92%, lambing 96%. Pastures mostly poor.

OHIO: Average lows ranged low 30s to low 40s; 3 to 10° subnormal. Average high temperatures ranged upper 50s to mid 60s; 3 to 9° subnormal. Extreme lows 20s to upper 30s. Precipitation 0.10 to 0.90 in., lightest south; 0.60 to 0.80 in. subnormal. Soil temperatures averaged low 50s to low 60s.

Days suitable for fieldwork 5.3. Soil moisture 32% short, 61% adequate, 7% surplus. Activities included land preparation, planting, harvesting forage. Winter wheat good; 11% jointing, 15% 1987. Hay, pasture good; some alfalfa sprayed to control weevil. Low temperatures slowed emergence, growth of field, vegetable crops. Few orchards damaged by frost; overall condition good.

OKLAHOMA: Temperatures averaged 3° below normal Panhandle to 5° below normal north central. Precipitation averaged none southeast to 0.57 in. north central.

Days suitable for fieldwork 5.0. Topsoil moisture 15% short, 75% adequate, 10% surplus. Subsoil moisture 3% short, 97% adequate. Wheat 80% good, 20% excellent; 25% heading, 45% 1987, 35% avg. Heading increased significantly west, south. Nitrogen shortage may reduce protein content. Foliar diseases evident north. Russian wheat aphid infestations spreading. Sorghum 2% planted, 3% 1987, 5% avg. Cotton 2% planted, 3% 1987, 3% avg. Soybeans 3% planted, 10% 1987, 3% avg. Corn 70% planted, 75% 1987, 50% avg. Wet fields prevented most row crop activity. Pastures improved with grass growth. Cattle good; marketings, prices stable.

OREGON: Weekly average temperatures 3 to 4° below normal east of Cascades, southwestern valleys. Remainder near normal. Precipitation 1.20 to 1.50 in. coast, Willamette Valley, Cascades. Southwest 0.70 in., less than 0.20 in. central areas. Barely more than traces arid areas extreme east.

Soil moisture 15% short, 80% adequate, 5% surplus. Barley 96% seeded, 95% 1987, 90% avg. Crops most of eastern grain area much improved with 2.00 to 3.00 in. of rain past 2 weeks. Rye heading; wheat, barley flag leaf stage east. Grain, grass seed fields even better west; although some leaf spot on fescue, ryegrass. Fieldwork for corn slowed by rain Willamette Valley. Field corn for silage planted southwest. Spring grain planting continued between showers eastern high country. Hay fields fertilized east; near 1st alfalfa cutting Hermiston-Boardman. Some grass, alfalfa cut for silage Medford. Mint flaming underway; stringing of hop yards continued Willamette Valley. Strawberries had good bloom, slight frost damage to low lying fields Willamette Valley; blueberries full bloom; both crops look good. Buds showed on marionberries, boysenberries. Fruit trees full bloom to past bloom west. Some orchard heating morning of 26th Hood River; apples sprayed for fireblight, thinning; crop good. Cranberries show light blight fungus infections south coast. Potato planting continued early areas; central area about 2 weeks away. Harvested bunch vegetables between storms west. Green peas, broccoli emerged, growing well; sowed onions, snap beans, sweet corn, beets Willamette Valley. Onions seeded, some emerged; sweet corn planted southwest. Some watermelon planting Hermiston. Livestock good to excellent. Some early turnout to ranges. Eastern ranges poor to fair, but improved due to rain. Sagebrush range at low elevations still dry, grasses heading right on ground. Higher elevation summer ranges show rapid grass growth. Western pastures good. Annual grasses headed on southeastern rangeland.

PENNSYLVANIA: Unseasonably cool temperatures continued across State past week. Average temperature 46°, 4° below normal. Temperature extremes 23°; 75°. Average precipitation 0.77 in., 0.05 in. below normal.

Days suitable for fieldwork 4.0. Soil moisture 35% short, 60% adequate, 5% surplus. Plowing 72%, 66% 1987, 53% avg. Corn 14% planted, 14% 1987, 11% avg. Soybeans 0% planted, 2% 1987, 2% avg. Oats 78% planted, 74% 1987, 62% avg. Potatoes 58% planted, 55% 1987, 35% avg. Tobacco beds 100% planted, 90% 1987, 84% avg. Barley 91% pre-boot, 78% 1987, 87% avg.; 9% boot, 22% 1987, 12% avg.; 0% heading or headed, 0% 1987, 1% avg. Wheat 96% pre-boot, 91% 1987, 95% avg.; 4% boot, 9% 1987, 5% avg.; 1% very poor, 5% poor, 25% fair, 53% good, 16% excellent. Oats 6% poor, 32% fair, 57% good, 5% excellent. Hay stands mostly good to fair. Feed from pastures mostly below average to average. Peaches 28% pre-pink, 18% 1987, 31% avg.; 23% pink, 22% 1987, 25% avg.; 49% full bloom or past, 60% 1987, 44% avg. Cherries 41% pre-pink, 17% 1987, 30% avg.; 13% pink, 19% 1987, 21% avg.; 46% full bloom or past, 64% 1987, 49% avg. Apples 50% pre-pink, 24% 1987, 47% avg.; 31% pink, 36% 1987, 23% avg.; 19% full bloom or past, 40% 1987, 30% avg. Activities: Planting corn, potatoes, oats, hay, tobacco; spring plowing; fence repair; hauling manure; spreading fertilizer; machinery maintenance; caring for livestock.

PUERTO RICO: Island rainfall averaged 0.99 in., 0.27 in. below normal. Highest weekly total rainfall 4.49 in. Arecibo Observatory, 3.34 in. Pico Del Este-Luquillo, 3.27 in. Lares. Highest 24-hour total 2.69 in. Pico Del Este-Luquillo. Total rainfall since January 1st 14.32 in., 20% above normal. San Juan WSFO mean temperature 81°, 2° above normal. Total rainfall 1.42 in., 0.39 in. above normal. Divisional temperature averaged about 79° on coasts, 70 to 73° interior divisions, mean station temperature ranged 65° Pico Del Este-Luquillo to 82° Roosevelt Roads. Lowest minimum temperature 52° Adjuntas. Highest maximum temperature 92° several places.

SOUTH CAROLINA: Temperatures averaged slightly below seasonal normals. Scattered frost 29th to 30th, isolated areas. Rainfall averaged 2.00 in.

Days suitable for fieldwork 5.7. Soil moisture 3% very short, 24% short, 73% adequate. Corn good; 98% planted, 93% 1987, 89% avg. Tobacco fair to good; 88% planted, 75% 1987, 79% avg. Cotton fair; 27% planted, 37% 1987, 57% avg. Peanuts fair to good; 15% planted, 31% 1987, 31% avg. Watermelons fair to good; 82% planted, 86% 1987, 83% avg. Sweetpotatoes fair to good; 8% planted, 6% 1987, 8% avg. Tomatoes fair to mostly good; 94% planted, 97% 1987, 98% avg. Spring cukes fair to good; 75% planted, 86% 1987, 86% avg. Wheat good; 80% headed, 57% 1987, 73% avg.; 1% turning color, 4% 1987, 11% avg. Oats good; 75% headed, 67% 1987, 70% avg.; 2% turning color, 6% 1987, 11% avg. Peaches good.

SOUTH DAKOTA: Average temperatures 1° above to 7° below normal. Extremes 17°; 90°. Precipitation widespread over State with heaviest amounts south. Precipitation for year continued below normal except for parts southeast.

Days suitable for fieldwork 3.4. Topsoil moisture mostly short to critical; 23% critically short, 37% short, 36% adequate, 4% surplus. End of week gusts blew topsoil, stirred up dust storms. Spring planting neared completion, corn just started. Some problems with sick calves due to variable weather.

TENNESSEE: Cold front with no rain crossed State 27th. High pressure late week brought dry weather. No rain occurred anywhere. Departure from normal 1.00 in. statewide. Temperatures averaged below normal entire week. Ranged 5° below normal west, 10° below normal northeast.

Days suitable for fieldwork 5.3. Soil moisture 7% very short, 51% short, 42% adequate. Corn 56% planted, 60% 1987, 45% avg.; 25% emerged, 29% 1987, 29% avg. Cotton 25% planted, 46% 1987, 22% avg. Sorghum 19% planted, 26% 1987, 16% avg. Soybeans 1% planted, 3% 1987, 1% avg. Tobacco 95% plants up, 96% 1987, 91% avg.; 3% transplanted, 2% 1987, 1% avg. Wheat 92% jointed, 90% 1987, 83% avg.; 38% headed, 90% 1987, 74% avg. Alfalfa 6% 1st cutting, 6% 1987, 4% avg. Below normal temperatures slowed growth. Pastures mostly good. Cattle fair to good. Hay being treated for alfalfa weevil. Main activities: Land preparation; planting row crops, vegetables; applying fertilizer; tending livestock, poultry.

TEXAS: Crops: Small grains turn color many portions central, south; some harvest underway Coastal Bend. Most fields maturing rapidly Blacklands. Additional fields grazed Hill Country because poor progress. Fields continued head out Plains. Yield prospects increased slightly dryland fields after rain 2 weeks ago. Irrigated fields some rust problems. Aphids, streak mosaic increased. Additional spraying underway. Cooler temperatures night slowed progress little. Wheat 19% headed, 44% 1987, 51% avg. Corn planting continued Plains. Growth many emerged fields slow because cooler nighttime temperatures. Stands good. Fields cultivated Blacklands, central. Signs moisture stress increased. Producers east sidedressing some fields. Good general rain would boost conditions across State. Corn 89% planted, 90% 1987, 89% avg. Grain sorghum planting increased Cross-Timbers, Low Plains with open weather. Moisture needed insure good emergence. Cultivating activities steady central, southern areas. Light insect problems. Some fertilizing completed. Sorghum 58% planted, 55% 1987, 62% avg. Cotton producers Plains trying to begin planting operations; soil temperatures too cool many areas. Planting increased many other areas. Producers Coastal Bend, Valley applying insecticides as needed. Fields these areas squaring. Rain would further boost progress; cotton fields not stressed as much as other field crops. Cotton 20% planted, 18% 1987, 16% avg.; 1% squaring, none 1987, 1% avg. Rice planting winding down Coastal Bend. Fertilization, irrigation continued. Fields emerging slowly. Rice 97% planted, 92% 1987, 89% avg.; 55% emerged, 68% 1987, 63% avg. Peanut producers south planting fields, hoping for rain. Irrigation, steady where available. Land preparation virtually complete other areas. Other field crops: Peanuts 5% planted, 5% 1987, 7% avg. Sugarbeets 100% planted, 94% 1987, 94% avg. Soybeans 3% planted, 18% 1987, 7% avg.

Commercial Vegetables: Rio Grande Valley harvest cabbage, carrots, celery winding down seasonally. Harvest onions increased. Yields good later varieties. Melons excellent progress. Irrigation steady citrus. Groves very good. San Antonio-Winter Garden light supplies carrots available. Melons, onions good progress. Harvest some onions underway. East planting, harvesting continued. Weed control continued. Melons good progress. Irrigation steady. High Plains onions, potatoes progressed well after last rain. Blowing sand hurt some plants. Trans-Pecos harvest onions begin soon Presidio. Melons good progress. Peaches continued size well many areas. Spraying continued east. Some thinning. Harvest continued Valley. Pecan progress slow many areas because cool weather, lack of rain. Spray programs continued.

Range and Pasture: Ranges, pastures could use another good rain most areas. South, Trans-Pecos remained critically dry. Cattle shown some weight losses with reduced forage. Some additional grazing small grains. Hay baling continued many parts State. Livestock markets fairly steady,

(Continued to p. 23)

Crop Progress

FOR WEEK ENDING MAY 1, 1988

SOYBEANS
% PLANTED

	1988	1987	AVG.
ALA	8	6	4
ARK	2	0	1
GA	2	4	5
ILL	4	5	2
IND	2	3	1
IOWA	0	2	0
KANS	0	5	0
KY	3	2	2
LA	1	2	2
MICH	0	0	0
MINN	1	7	1
MISS	2	2	2
MO	5	4	4
NEBR	1	1	0
N C	1	0	4
OHIO	4	4	2
S C	0	0	0
S DAK	0	1	0
TENN	1	3	1
19 STATES	2	3	1

THESE 19 STATES PRODUCED 96% OF THE 1987 SOYBEANS CROP.

SPRING WHEAT
% PLANTED

	1988	1987	AVG.
IDAHO	77	92	69
MINN	87	87	46
MONT	78	37	45
N DAK	69	49	32
S DAK	98	92	61
5 STATES	78	61	42

THESE 5 STATES PRODUCED 95% OF THE 1987 SPRING WHEAT CROP.

WINTER WHEAT
% HEADED

	1988	1987	AVG.
ARK	64	83	NA
CALIF	90	88	83
COLO	0	0	0
GA	89	84	85
IDAHO	0	0	0
ILL	3	4	4
IND	0	0	0
KANS	0	2	4
MICH	0	0	0
MO	9	21	11
MONT	0	0	0
NEBR	0	0	0
N MEX	32	90	NA
N C	36	19	NA
OHIO	0	0	0
OKLA	25	45	35
OREG	0	0	0
S DAK	0	0	0
TEX	19	44	51
WASH	0	0	0
20 STATES	12	20	NA
EXCL. STATES WITH NA	10	18	17

THESE 20 STATES PRODUCED 91% OF THE 1987 WINTER WHEAT CROP.

NA - NOT AVAILABLE.

RICE
% PLANTED

	1988	1987	AVG.
ARK	45	73	43
CALIF	15	8	5
LA	70	74	73
MISS	75	53	53
TEX	97	92	89
5 STATES	54	63	49

THESE 5 STATES PRODUCED 97% OF THE 1987 RICE CROP.

RICE
% EMERGED

	1988	1987	AVG.
ARK	9	20	37
CALIF	0	0	0
LA	44	58	60
MISS	18	7	23
TEX	55	68	63
5 STATES	20	28	37

THESE 5 STATES PRODUCED 97% OF THE 1987 RICE CROP.

SPRING WHEAT
% EMERGED

	1988	1987	AVG.
IDAHO	54	62	38
MINN	19	43	15
MONT	17	30	28
N DAK	11	7	7
S DAK	40	58	35
5 STATES	19	26	17

THESE 5 STATES PRODUCED 95% OF THE 1987 SPRING WHEAT CROP.

COTTON
% PLANTED

	1988	1987	AVG.
ALA	63	71	43
ARIZ	80	89	90
ARK	20	34	21
CALIF	80	90	88
GA	19	25	30
LA	37	42	40
MISS	36	39	30
MO	17	39	17
N MEX	70	78	45
N C	10	28	35
OKLA	2	3	3
S C	27	37	57
TENN	25	46	22
TEX	20	18	16
14 STATES	33	36	31

THESE 14 STATES PRODUCED 100% OF THE 1987 COTTON CROP.

CORN
% PLANTED

	1988	1987	AVG.
COLO	30	15	12
GA	96	94	93
ILL	60	53	34
IND	38	40	21
IOWA	30	55	23
KANS	45	50	25
KY	46	40	34
MICH	5	20	10
MINN	21	58	16
MO	72	54	40
NEBR	25	29	12
N C	78	51	65
OHIO	38	34	26
PA	14	14	11
S DAK	6	16	4
TEX	89	90	89
WIS	6	11	6
17 STATES	36	43	24

THESE 17 STATES PRODUCED 94% OF THE 1987 CORN CROP.

GRAIN SORGHUM
% PLANTED

	1988	1987	AVG.
ARK	46	58	42
ILL	9	0	0
KANS	0	4	0
LA	35	41	58
MISS	53	36	35
MO	11	12	7
NEBR	1	2	0
OKLA	2	3	5
S DAK	0	1	0
TENN	19	26	16
TEX	58	55	62
11 STATES	19	21	20

THESE 11 STATES PRODUCED 96% OF THE 1987 GRAIN SORGHUM CROP.

Crop Condition

FOR WEEK ENDING MAY 1, 1988

WINTER WHEAT

STATE	VP	P	F	G	EX
ARK	0	0	8	69	23
CALIF	0	5	20	70	5
COLO	5	5	20	57	13
GA	0	0	12	76	12
IDAHO	0	1	21	60	18
ILL	0	0	10	80	10
IND	1	4	41	52	2
KANS	2	15	26	41	16
MICH	2	8	25	50	15
MO	0	5	35	57	3
MONT	0	5	42	43	10
NEBR	0	0	46	52	2
N MEX	0	30	50	20	0
N C	0	1	13	76	10
OHIO	0	5	23	58	14
OKLA	0	0	0	80	20
OREG	0	0	50	48	2
S DAK	7	22	44	25	2
TEX	3	16	39	35	7
WASH	0	0	80	15	5

VP - VERY POOR P - POOR F - FAIR
G - GOOD EX - EXCELLENT

International Weather and Crop Summary

April 24-30, 1988

HIGHLIGHTS:

UNITED STATES ... Precipitation interrupts planting in the central and southern Great Plains but provides much needed moisture. Small grains continue to suffer from the lack of moisture in the northern Great Plains. Corn planting leaps ahead of the previous week's progress.

WESTERN U.S.S.R. ... Unseasonably cool weather slows winter grain growth.

EUROPE ... Widespread rainfall favors southern winter grains. Cooler than normal temperatures slow crop growth in most growing areas.

SOUTH ASIA ... Showers continue in eastern and southern rice regions, boosting irrigation reserves for the current crop and upcoming planting.

NORTHWESTERN AFRICA ... Substantial rain over Algeria and Tunisia arrives too late to help winter grains which are mostly maturing.

CANADA ... Dry pockets continue over the Prairie grain belt. Early planting is underway, but more rainfall is needed for germination.

EASTERN ASIA ... Much warmer than normal weather accelerates crop growth rates over most growing areas.

SOUTHEAST ASIA ... Showers continue throughout Thailand, improving pre-planting soil conditions.

SOUTH AMERICA ... Wetness delays harvesting in southern Brazil. Drier, cool weather favors harvesting in Argentina.

AUSTRALIA ... Moderate to heavy rain favors pre-planting soil moisture levels in Western Australia. Light to moderate rain delays winter grain planting and summer crop harvest in eastern crop areas.

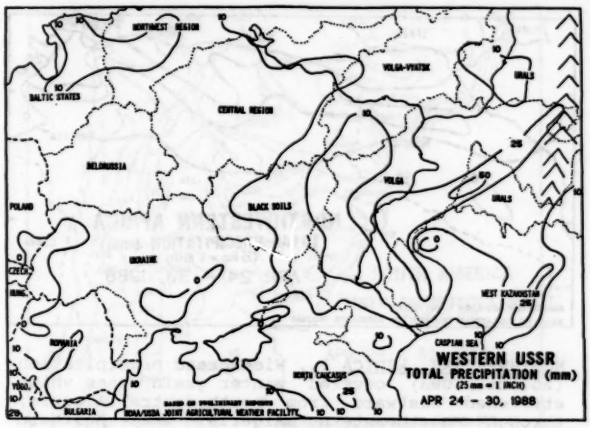
APRIL 1988

MONTHLY DATA FROM SELECTED FOREIGN CITIES
CLIMATE ANALYSIS CENTER-NMC-NWS-NOAA
*** = DATA NOT AVAILABLE

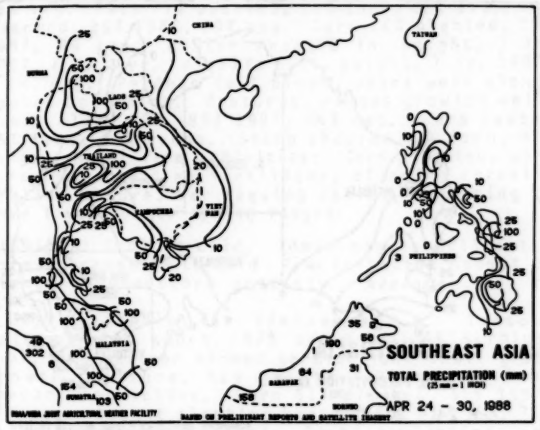
COUNTRY	CITY	TEMPERATURE (C)						PRECIPITATION (MM)	
		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
NORWAY	OSLO	6	-3	14	-11	2	-1.2	42.1	-6.5
SWEDEN	STOCKHOLM	8	0	16	-6	4	-0.3	27.7	-4.1
FINLND	HELSINKI	6	-2	14	-9	2	-0.8	22.9	-18.0
U KING	GLASGOW	12	4	19	-4	8	-0.4	64.0	1.0
	EDINBURGH	11	4	15	-3	7	0.2	61.2	22.7
	BIRMINGHAM	12	4	16	-3	8	0.1	47.2	3.6
	LONDON	13	4	19	-4	8	0.4	43.0	-13.1
IRELND	DUBLIN	12	6	17	0	9	1.0	20.8	-26.3
ICELND	REYKJAVIK	3	-2	11	-11	1	-2.7	23.0	-34.3
DENMRK	COPENHAGEN	10	2	18	-4	6	-0.9	10.6	-27.5
LUXEMB	LUXEMBOURG	14	4	22	-2	9	0.8	22.5	-26.2
SWITZL	ZURICH	14	5	22	-1	10	1.6	76.9	-14.5
	GENEVA	15	4	20	-2	9	0.4	55.5	-2.9
FRANCE	PARIS	16	5	19	1	11	1.0	0.1	-35.6
	STRASBOURG	16	5	25	-1	10	1.0	25.6	-17.3
	BOURGES	16	6	22	0	11	1.1	31.8	-14.8
	BORDEAUX	18	9	23	3	13	2.3	70.9	11.5
	TOULOUSE	17	9	21	2	13	1.8	171.2	115.3
	MARSEILLE	17	9	21	1	13	0.3	44.9	2.5
SPAIN	VALLADOLID	15	6	23	1	11	0.8	98.7	63.0
	MADRID	17	7	25	1	12	-0.2	90.5	47.2
	SEVILLE	23	11	31	7	17	1.1	39.0	-13.3
E GRMY	LEIPZIG	14	4	25	-5	9	0.8	13.4	-27.4
	DRESDEN	14	4	24	-4	9	0.7	6.3	-39.7
W GRMY	HAMBURG	13	3	24	-3	8	0.8	15.0	-32.0
	BERLIN	14	4	25	-4	9	0.6	2.8	-37.5
	DUSSELDORF	15	5	26	-2	10	0.3	23.3	-27.8
	STUTTGART	14	4	23	-3	9	0.2	52.9	-1.6
	NURNBERG	15	4	23	-4	9	1.1	30.6	-13.0
	MUNICH	14	3	21	-3	9	1.0	48.3	-24.2
AUSTRI	VIENNA	15	4	23	-4	10	-0.3	13.7	-29.2
	INNSBRUCK	17	4	23	-1	10	1.7	20.5	-45.2
CZECH	PRAGUE	14	2	24	-5	8	0.4	14.8	-23.2
POLAND	WARSAW	13	2	23	-4	7	-0.5	5.4	-28.9
	LODZ	13	2	23	-6	7	0.2	24.0	-26.0
	KATOWICE	13	2	23	-4	8	0.3	20.5	-33.6
	PRZEMYSL	12	3	19	-3	7	-0.6	16.1	-31.6
HUNGAR	BUDAPEST	16	5	22	-3	10	-0.4	39.2	0.1
YUGOSL	SARAJEVO	16	4	22	-3	10	0.4	63.2	-12.7
ROMANI	BUCHAREST	16	5	23	1	10	-1.0	79.7	35.1
BULGAR	SOFIA	14	5	21	-2	9	-1.0	60.2	13.1
ITALY	MILAN	18	10	24	5	14	1.4	89.4	11.8
	VERONA	18	9	23	5	13	1.4	89.4	28.8
	VENICE	17	8	21	3	13	0.5	34.0	-37.8
	GENOA	18	12	23	8	15	0.1	70.6	-15.0
	ROME	18	9	22	5	14	0.7	103.6	54.3
	NAPLES	20	9	27	4	14	1.4	75.0	0.9
GREECE	THESSALONIKA	18	8	24	1	13	-1.4	12.6	-23.5
	LARISSA	18	6	26	1	12	-1.7	31.8	3.4
	ATHENS	19	11	23	4	15	-1.4	14.2	-2.9
TURKEY	ISTANBUL	15	8	22	1	11	0.7	40.6	2.6
	ANKARA	16	4	23	-3	10	-1.4	61.2	35.2
CYPRUS	LARNACA	23	13	29	8	18	1.0	3.3	-16.8
USSR	TALLINN	6	-1	16	-7	3	0.0	42.9	7.5
	LENINGRAD	7	0	20	-5	3	0.0	31.5	-3.8
	KAUNAS	10	1	20	-4	5	-0.6	18.7	-20.8
	MINSK	10	1	22	-4	6	0.1	36.7	-3.7
	KAZAN	9	0	19	-5	5	0.2	45.3	13.7
	MOSCOW	10	1	21	-5	6	0.2	24.2	-13.7
	SVERDLOVSK	10	-1	18	-8	4	0.3	56.6	31.1
	OMSK	10	0	22	-13	5	2.3	7.1	-12.6
	KUSTANAY	14	2	26	-6	8	3.2	11.5	-10.1
	KRASNOYARSK	9	-1	21	-10	4	2.9	15.4	-10.4
	NOVOSIBIRSK	9	0	21	-14	4	5.1	19.2	6.5
	BARNAUL	10	0	26	-12	5	2.5	3.4	-24.1
	KHABAROVSK	11	0	23	-8	6	2.1	11.1	-26.3
	VLADIVOSTOK	8	1	15	-4	5	0.4	67.2	4.8
	KIEV	13	5	22	-2	9	0.2	37.5	-2.4
	LVOV	12	3	20	-4	7	-0.2	48.9	0.9
	KIROVOGRAD	13	4	22	-2	8	-0.3	21.0	-10.3

COUNTRY	CITY	TEMPERATURE (C)						PRECIPITATION (MM)	
APRIL 1988		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
USSR	ODESSA	12	6	22	2	9	0.1	42.3	11.2
	YALTA	15	8	21	5	12	1.5	39.8	7.8
	VORONEZH	13	2	22	-3	7	-0.1	29.9	-5.6
	SARATOV	9	2	18	-5	6	-1.1	61.6	34.5
	KHARKOV	13	4	22	-1	9	0.1	20.9	-8.6
	VOLGOGRAD	13	4	21	-3	8	-0.3	21.0	-2.3
	ROSTOV	15	6	20	2	10	-0.1	25.8	-12.5
	ASTRAKHAN	19	6	26	-1	12	1.4	8.5	-7.0
	KRASNODAR	17	7	24	1	12	0.4	36.0	-16.9
	ORENBURG	13	2	21	-5	8	0.5	20.3	-3.1
	TSELINOGRAD	11	0	23	-13	5	2.4	2.2	-11.9
	KARAGANDA	13	0	24	-14	7	2.1	1.4	-22.3
	TBILISI	18	9	26	4	14	1.1	25.5	-25.6
	TASHKENT	24	12	35	3	18	2.6	23.1	-36.2
	ASHKHABAD	24	12	38	5	18	1.1	25.6	-17.7
SYRIA	DAMASCUS	23	7	32	2	15	-0.7	25.9	12.9
ISRAEL	JERUSALEM	21	10	32	5	16	0.0	7.0	-21.2
PAKIST	KARACHI	36	24	42	19	30	1.7	0.1	-1.5
INDIA	AMRITSAR	35	16	42	9	26	0.8	12.1	0.0
	NEW DELHI	38	23	41	17	30	1.1	6.1	-0.5
	AHMEDABAD	41	26	44	21	33	1.9	11.1	11.1
	INDORE	40	22	44	19	31	1.2	11.1	9.1
	CALCUTTA	36	25	41	21	31	-0.2	43.0	8.2
	VERAVAL	32	23	41	18	27	0.5	0.1	0.1
	BOMBAY	34	25	39	22	29	0.9	0.1	-0.3
	POONA	37	20	40	17	29	-0.7	49.1	32.7
	BEGAMPET	37	24	40	17	31	-0.1	48.2	26.7
	MADRAS	35	26	38	23	31	0.0	45.2	29.7
	MANGALORE	35	25	36	22	30	0.5	12.3	-27.6
H KONG	HONG KONG	23	20	29	13	21	-0.8	84.9	-54.6
N KREA	PYONGYANG	14	2	24	-5	8	-0.3	44.6	-17.4
S KREA	SEOUL	17	7	24	-2	12	1.2	63.7	-4.4
JAPAN	SAPPORO	12	4	24	-2	8	1.5	65.7	-0.4
	NAGOYA	19	10	27	2	14	0.8	147.5	-7.1
	TOKYO	18	11	28	1	15	0.7	108.5	-17.7
	YOKOHAMA	18	11	25	1	14	0.6	133.9	-8.8
	KYOTO	19	9	26	1	14	1.8	94.7	-46.1
	OSAKA	19	11	25	4	15	0.5	84.0	-64.3
THAILN	PHETCHABUN	36	25	42	23	31	0.6	105.0	30.6
	BANGKOK	34	27	36	23	31	0.2	179.7	115.5
MALAYS	KUALA LUMPUR	32	24	35	21	28	1.3	331.4	53.0
VIETNM	HANOI	26	21	34	17	23	-0.6	71.4	-9.9
CHINA	HARBIN	12	0	25	-10	6	0.3	151.7	127.9
	HAMI	21	5	30	-2	13	-0.1	3.0	0.9
	LANCHOW	19	6	27	2	13	0.9	1.0	-16.5
	BEIJING	21	9	33	0	15	1.6	8.6	-10.8
	TIENTSIN	20	9	32	1	15	1.5	3.5	-17.5
	LHASA	16	2	21	-3	9	0.8	6.7	2.7
	KUNMING	23	10	28	6	17	0.6	24.4	3.2
	CHENGCHOW	22	9	34	0	16	1.0	26.3	-27.4
	YEHCHANG	24	13	36	6	19	2.2	20.5	-84.0
	HANKOW	22	13	32	4	18	1.7	40.4	-99.7
	CHIHKIANG	23	12	31	6	18	1.3	67.8	-100.4
	SHANGHAI	20	11	31	5	16	1.7	39.4	-64.0
	NANCHANG	22	14	31	6	18	1.0	178.9	-46.5
	TAIPEI	24	18	32	14	21	0.4	399.6	231.7
	CANTON	24	17	31	13	21	-1.2	160.9	-17.8
	NANNING	24	18	34	11	21	-1.1	55.0	-34.9
CNRY I	LAS PALMAS	22	16	23	14	19	0.4	0.4	-5.7
MOROCC	CASABLANCA	19	12	22	9	16	0.1	18.0	-20.3
	MARRAKECH	25	12	36	9	18	1.5	7.3	-27.3
ALGERI	ALGER	21	10	28	3	16	0.8	33.0	-48.6
	BATNA	20	7	27	0	14	1.6	21.2	-6.7
TUNISI	TUNIS	23	11	31	5	17	2.0	34.2	-13.7
NIGER	NIAMEY	41	28	50	23	35	1.2	5.8	1.7
MALI	TIMBUKTU	41	24	44	20	32	1.2	0.1	-1.3
	BAMAKO	40	28	42	25	34	2.2	3.2	-13.2
MAURIT	NOUAKCHOTT	34	19	42	16	26	1.1	0.1	0.1
SENEGL	DAKAR	25	19	29	10	22	0.7	0.1	0.1
CHAG A	DIEGO GARCIA	32	27	33	23	30	1.6	96.9	-84.6
LIBYA	TRIPOLI	27	13	34	6	20	1.7	1.0	-18.0
	BENGHAZI	26	16	35	9	21	1.9	0.1	-7.1
EGYPT	CAIRO	28	15	38	3	21	0.2	0.1	-0.7
	ASWAN	35	21	42	12	28	0.6	0.1	0.1
ETHIOP	ADDIS ABABA	23	14	27	12	19	0.3	126.1	42.4
KENYA	NAIROBI	25	16	28	14	21	0.2	215.5	58.8

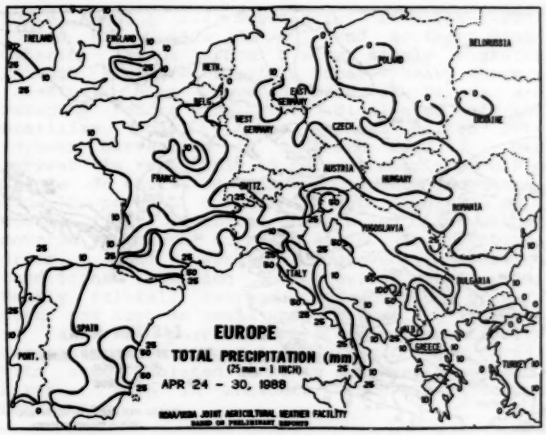
COUNTRY	CITY	TEMPERATURE (C)						PRECIPITATION (MM)	
APRIL 1988		AVG MAX	AVG MIN	HI MAX	LO MIN	AVG	DPART F/NRM	TOTAL	DPART F/NRM
TANZAN	DAR ES SALAAM	31	23	33	16	27	0.4	255.2	-15.2
GABON	LIBREVILLE	30	24	35	20	27	0.3	333.2	-13.4
TOGO	LOME	33	26	35	22	29	1.5	104.7	5.1
B FASO	OUAGADOUGOU	39	27	43	21	33	0.3	79.0	55.3
IVRY C	ABIDJAN	32	26	35	22	29	1.2	183.7	20.7
MOZAMB	MAPUTO	29	20	33	13	25	1.4	65.9	6.7
ZAMBIA	KABWE	30	16	30	16	23	3.0	0.0	-23.4
ZIMBAB	HARARE	26	15	29	10	21	2.5	28.0	-18.3
S AFRI	PRETORIA	24	13	30	5	19	1.7	76.7	18.6
	KROONSTAD	22	10	30	1	16	-0.2	109.3	66.4
	JOHANNESBURG	22	11	27	2	16	1.3	41.2	-16.3
	BETHAL	21	12	27	4	17	1.6	53.8	15.7
	DURBAN	26	18	31	10	22	0.7	28.2	-58.4
	CAPE TOWN	22	12	31	4	17	0.5	41.1	-3.5
CANADA	TORONTO	11	1	18	-3	6	-0.3	55.9	-14.1
	MONTREAL	12	2	18	-2	7	1.0	79.6	5.4
	WINNIPEG	14	-4	26	-13	5	1.7	1.1	-37.4
	REGINA	14	-3	27	-11	6	2.3	15.6	-8.2
	SASKATOON	13	-3	27	-10	5	1.8	1.8	-19.0
	LETHBRIDGE	16	-1	26	-8	8	2.7	0.4	-42.3
	CALGARY	14	-2	23	-7	6	3.1	1.6	-31.0
	EDMONTON	14	1	23	-6	7	3.2	14.9	-6.8
	VANCOUVER	13	6	19	1	10	0.9	91.2	31.6
MEXICO	GUADALAJARA	31	11	36	7	21	-0.6	0.1	-8.3
	MEXICO CITY	28	13	33	10	20	2.6	9.7	-3.3
	ACAPULCO	32	21	33	19	27	-0.7	0.1	-5.1
BERMUD	ST. GEORGES	24	18	30	16	21	2.3	124.6	44.0
BAHAMA	NASSAU	29	20	33	14	24	0.8	2.8	-51.9
CUBA	HAVANA	28	21	31	19	24	-0.2	9.2	-41.1
JAMAIC	KINGSTON	32	24	33	22	28	0.9	15.4	-23.4
P RICO	SAN JUAN	31	23	33	21	27	1.1	103.8	12.8
GUADEL	RAIZET	30	22	32	21	26	1.0	10.0	-48.1
MARTNQ	LAMENTIN	30	23	32	20	27	1.8	19.8	-58.3
BARBAD	BRIDGETOWN	30	25	31	23	28	1.0	0.8	-45.6
TRINID	PORT OF SPAIN	33	23	34	21	28	1.9	3.5	-46.7
COLOMB	BOGOTA	19	9	22	5	14	0.7	142.0	53.8
VENEZU	CARACAS	31	24	35	23	27	1.6	0.5	-22.3
F GUIA	CAYENNE	30	24	31	22	27	1.2	162.4	-267.0
BRAZIL	FORTALEZA	30	24	32	23	27	0.2	289.9	-67.7
	RECIFE	30	23	32	21	27	0.4	588.2	306.9
	BELO HORIZONTE	28	19	31	16	23	1.8	96.8	31.7
	CAMPO GRANDE	30	21	37	17	25	3.4	44.0	-57.1
	FRANCA	26	17	30	14	22	1.7	226.1	145.1
	RIO DE JANEIRO	29	23	36	19	26	1.4	179.8	65.6
	LONDRINA	28	18	33	13	23	1.9	212.5	112.2
	SANTA MARIA	25	13	32	5	19	-0.3	163.4	21.4
PERU	LIMA	25	18	27	16	22	1.2	0.1	0.1
BOLIVI	LA PAZ	14	3	18	0	8	-0.7	69.0	39.1
CHILE	SANTIAGO	24	7	31	2	16	1.5	0.1	-13.3
ARGENT	IGUAZU	26	18	32	11	22	***	315.4	****
	FORMOSA	28	17	38	9	23	1.3	189.3	52.3
	CERES	26	13	32	7	19	0.4	2.3	-70.0
	CORDOBA	23	11	29	6	17	0.2	19.8	-26.8
	RIO CUARTO	22	11	29	1	16	0.1	25.0	-25.9
	ROSARIO	22	10	28	5	16	-0.5	10.1	-74.9
	BUENOS AIRES	21	10	28	1	15	-0.4	17.4	-68.7
	SANTA ROSA	21	8	31	-1	15	0.0	42.0	-9.6
	TRES ARROYOS	18	8	26	-1	13	-0.9	31.7	-32.3
MIDW I	MIDWAY ISLAND	24	19	26	14	21	1.4	111.6	50.0
N CALD	NOUMEA	27	22	30	21	25	1.2	118.6	3.9
FIJI	NAUSORI	29	24	32	22	26	0.8	514.7	175.4
SAMOA	PAGO PAGO	30	25	31	20	28	0.5	269.1	-23.5
TAHITI	PAPEETE	31	24	33	23	28	1.0	56.2	-57.6
N ZEAL	AUCKLAND	20	11	23	5	16	-1.0	15.1	-95.7
	WELLINGTON	16	10	19	3	13	-1.0	19.5	-87.0
PA N G	PORT MORESBY	30	25	32	23	28	0.7	80.8	-37.3
AUSTRL	DARWIN	32	26	34	24	29	0.7	18.6	-79.2
	MOREE	23	16	26	12	20	-0.3	168.4	144.2
	BRISBANE	24	19	28	16	21	-0.4	352.2	280.1
	PERTH	26	16	33	10	21	2.0	98.9	51.5
	CEDUNA	22	13	32	7	17	-0.2	1.0	-20.9
	ADELAIDE	21	13	25	8	17	-0.1	11.9	-34.5
	MELBOURNE	20	12	25	5	16	0.9	13.0	-39.6
	WAGGA	24	14	28	8	19	3.0	9.4	-41.1
	CANBERRA	19	9	23	2	14	1.2	119.7	73.0
PHILIP	MANILA	35	25	36	20	30	0.8	11.1	-5.1



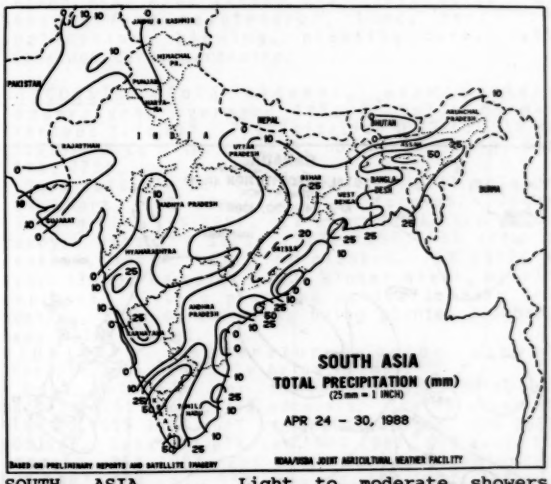
WESTERN U.S.S.R ... Unseasonably cool weather covered the region. Weekly average temperatures were 4-6 degrees Celsius (C) below normal, slowing winter grain growth. The weather was cold enough in the Baltic States, Belorussia, the Central Region, and the Volga Vyatsk to induce winter grains into a state of semi-dormancy. Precipitation was mostly light (less than 10mm) with some dry pockets covering the Ukraine. The only crop areas which received significant precipitation were those in the eastern Volga and the western Urals, where rainfall amounts ranged from 20 to 50mm.



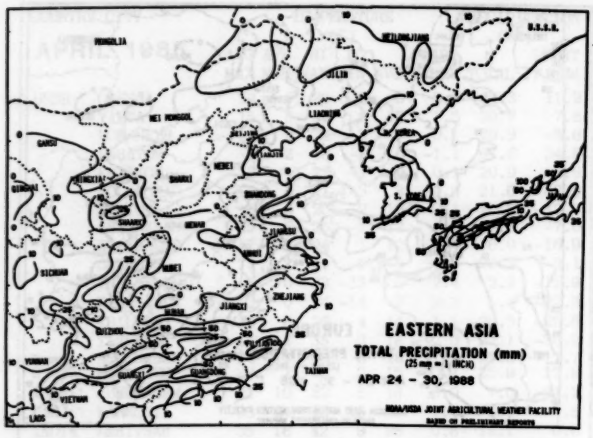
SOUTHEAST ASIA ... Widespread showers (13-87mm) continued over Thailand's rainfed crop regions and reached crop areas of Laos, southern Vietnam, and western Kampuchea, improving pre-planting soil conditions. Light rain (less than 10mm) continued over rice regions of northern and central Vietnam. Scattered, light to moderate rain (5-47mm) covered peninsular Thailand, but moderate to heavy rain (57-185mm) covered Malaysia, including the southeastern Malay Peninsula. Light to moderate rain (10-44mm) fell over most rice regions of Java as drier weather returned to southern Indonesia. Variable rainfall covered the northern islands of Indonesia, with heaviest rain (100mm or more) along coastal regions. In the Philippines, heavy rain (50-77mm) fell over central Mindanao and local regions to the north, but rainfall elsewhere generally averaged less than 10mm.



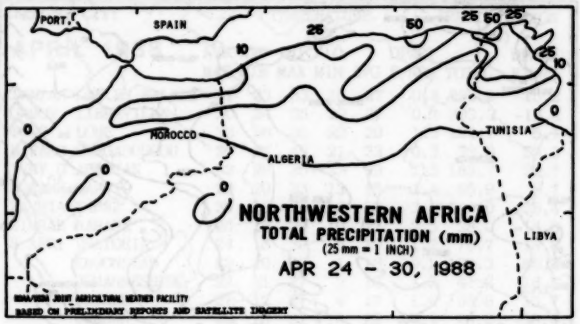
EUROPE ... Widespread rain favored reproductive winter grains across Spain, southern France, Italy, and Yugoslavia. Scattered rainfall caused fieldwork delays and kept soil moisture levels high across northwestern Europe, while northeastern Europe remained favorably dry. Cooler than normal temperatures covered all of the continent except for the extreme south, slowing growth of winter and summer crops. Average weekly temperatures were as much as 7 degrees C below normal in eastern Poland. Subfreezing temperatures over northern growing areas early in the week may have caused localized damage to newly emerging summer crops. Planting of most summer crops in northern growing areas has been favored by drier than normal weather over the past 3 weeks and is nearing completion in some areas.



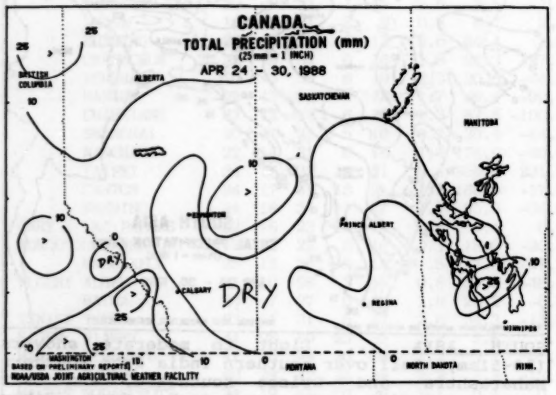
SOUTH ASIA ... Light to moderate showers (10-51mm) fell over southern India from southern Maharashtra and Orissa southward, and over eastern India and Bangladesh from Bihar eastward. The rainfall boosted irrigation reserves for the current rice crop, mostly filling to maturing, and for the upcoming planting of rice. Scattered, mostly light rain (less than 10mm), covered Pakistan and north-central India. Temperatures have been seasonably hot throughout South Asia, hastening grain maturity.



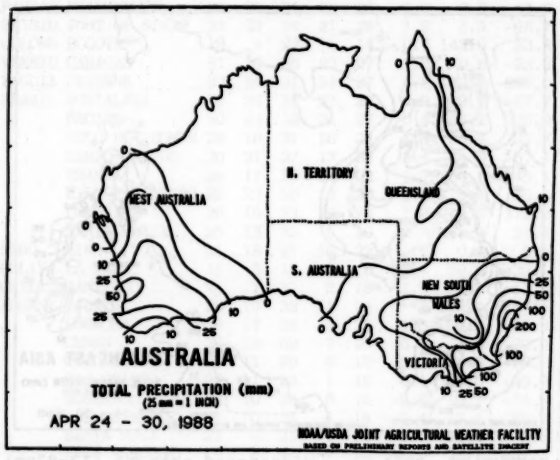
EASTERN ASIA ... Much warmer than normal weather developed over the region, with average weekly temperatures as much as 5 degrees C above normal in the North China Plain and Korean Peninsula. The warm weather accelerated growth rates of winter grains over most growing areas but increased evaporative loss rates to unfavorably high levels in northern winter grain areas where persistent dryness has been a problem since late last fall. Scattered rainfall benefited winter grains across central and southern growing areas. In the south, widespread rain (up to 99mm) favored vegetative early-crop rice. Planting of single-season rice continued in full swing across much of the Yangtze River Valley. Beneficial light to moderate rain (5-15mm) continued for the third consecutive week in previously dry Yunnan Province.



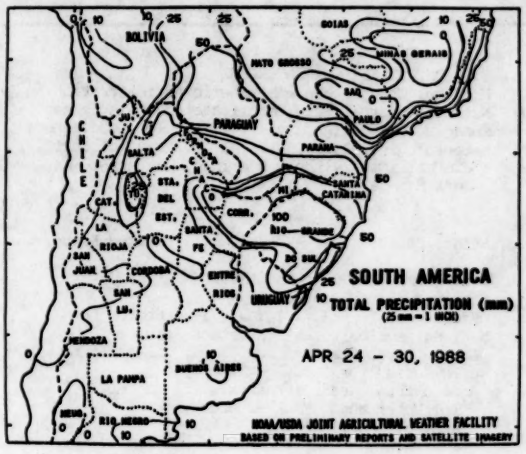
NORTHWESTERN AFRICA ... Widespread precipitation (20 to 50mm) covered winter grain areas which stretched eastward from north-central Algeria, through northeastern Algeria, into northern Tunisia, giving southernmost crop areas their first substantial moisture since the beginning of the growing season. Although the precipitation benefited winter grains in the filling stage, the rain came too late to help much of the crop which was maturing. In Morocco, mostly dry weather favored crop maturation.



CANADA ... Dry weather continued in southeastern Alberta and over the western grain regions of Saskatchewan. Light rain (less than 10mm) covered grain areas of southeastern Saskatchewan and most of Manitoba. Heavier rain (10-18mm) benefited the northern grain regions of Alberta. Spring wheat planting is underway, but more rain is needed in most areas to increase topsoil moisture for germination.



AUSTRALIA ... Moderate to heavy rain (greater than 25mm) caused delays in planting preparation for winter grains over growing areas of Western Australia, but increased soil moisture reserves for the upcoming crop. Light to moderate rain (generally 5-15mm) fell over eastern crop areas, causing delays in planting and in cotton and sorghum harvesting in Queensland and New South Wales. Very heavy rains (up to 272mm) in coastal New South Wales may have caused some flooding. Scattered rainfall also benefited vegetative sugarcane along Queensland's eastern coast. Rainfall in most sugarcane areas has been above normal for 3 consecutive weeks. Average temperatures for the week ranged from much above normal in growing areas of southern New South Wales and Victoria to near normal in southern Queensland and Western Australia.



SOUTH AMERICA ... Substantial rain (50-148mm) soaked Rio Grande do Sul and southern Santa Catarina as a storm system slowly migrated through southern Brazil. Locally heavy showers (25-87mm) also covered much of Parana and Paraguay before the storm dissipated off the Brazilian coast. The wetness halted late soybean harvesting in southern Brazil. The harvest is reportedly 65 percent complete in Rio Grande do Sul, 98 percent complete in Parana, and 70 percent complete in Mato Grosso do Sul. Mostly light, scattered showers and mild weather covered northern soybean areas. In Argentina, drier, cool weather improved harvesting conditions following the previous week's rain. Weekly rainfall averaged 1-9mm over the primary corn and soybean areas where harvesting is about 50 and 5 percent complete, respectively. Temperatures averaged 1-3 degrees C below normal with some isolated frost in southwestern Buenos Aires. Rain in southern Chaco slowed cotton harvesting.

(Continued from p. 17)

slowed down slightly. Shearing sheep main activity Hill Country.

UTAH: Temperatures 2 to 4° below normal. Precipitation light to heavy.

Days suitable for fieldwork 5.4. Soil moisture 7% short, 86% adequate, 7% surplus. Spring wheat 80% emerged, 59% 1987, 25% avg. Barley 93% planted, 88% 1987, 69% avg.; 68% emerged, 66% 1987, 35% avg. Oats 77% planted, 59% 1987, 52% avg.; 44% emerged, 25% 1987, 20% avg. Corn 16% planted, 25% 1987, 9% avg. Winter wheat 6 in. height, 7 in. 1987, 6 in. avg. Alfalfa 5 in. height, 7 in. 1987, 5 in. avg. Peaches full bloom, pears well along, apples beginning. Pastures, ranges growing well. Cows calved 87%, 89% 1987, 84% avg. Ewes lambed 96% farm, 86% range. Sheep sheared 92% farm, 87% range. Major farm activities: Corn planting, weed spraying, spreading fertilizer, cleaning corrals, hauling manure, ear tagging calves, preparing to move livestock to spring ranges.

VIRGINIA: Cool to cold. Temperatures well below normal, range 26 to 81°. Precipitation modest to light, thunderstorm activity. Averages 0.21 to 0.62 in.

Days suitable for fieldwork 5.3. Topsoil moisture 49% short, 47% adequate, 4% surplus. Cool, dry weather slowed germination, small grain growth, pasture, hay growth. Planting, land preparation active. Corn 51% planted, 31% 1987, 51% avg. Peanut planting began; 16%, 9% 1987, 31% avg. Cotton 70% planted. Soybean planting just started. Flue-cured tobacco transplanting began. All crops good to excellent despite cool, dry conditions. Some powdery mildew in wheat. Alfalfa weevil very active in alfalfa. Sheep shearing active. Fruit good most areas, frost caused light damage few areas.

WASHINGTON: Temperatures averaged near normal west Cascades; normal to 7° below, east. Precipitation scattered across State; none to 1.10 in.

Days suitable for fieldwork 6 east Cascades, 5 west. Soil moisture 40% short, 60% adequate east; 70% adequate, 30% surplus west. Spring wheat, barley mostly fair to good, some excellent. Spring wheat 97% planted, 90% emerged. Barley 83% planted, 72% emerged. Berry progress good. Limited frost damage to fruit, east. Vegetable planting, asparagus cutting, continued. Early spinach, lettuce harvest underway, west. Potatos 82% planted, 36% emerged. Range, pasture short to adequate east; mostly adequate west.

WEST VIRGINIA: Average temperature 49°; 7° below normal. Extremes 79° Ripley; 23° Greenbank. Snow higher elevations. Average precipitation 0.31 in.; below normal.

Days suitable for fieldwork 4.4. Soil moisture 15% very short, 53% short, 32% adequate. Wheat, barley good to fair; oats, corn fair to good. Oats 75% planted, 47% emerged. Corn 7% planted, 2% emerged. Tobacco fair; 86% planted, 65% emerged. Apples fair to good, past full bloom. Peaches good to fair. Feed supplies adequate to short. Cows calved 95%; ewes lambed 99%. Farm activities: General farm maintenance, lime, fertilizer application; plowing, planting corn, oats; livestock care, gardening.

WISCONSIN: Cold midweek, warm weekend. Temperatures averaged 48°, 3° below normal. Extremes 21°; 81°. Precipitation 0.05 to 1.12 in. Snowfall 1 to 5 in. central, northeast. Rain, snow 26th, 27th.

Days suitable for fieldwork 4.4. Soil moisture 18% short, 70% adequate, 12% surplus. Spring plowing 61%, 59% 1987, 42% avg. Most corn ground ready. Oats 75% seeded, 72% 1987, 51% avg.; up central, south. Corn 6% planted, 11% 1987, 6% avg.; slowed by cold, wet. Winter wheat, alfalfa improved. Potato planting active to near done central, slow north. Peas being planted. Tobacco beds being seeded.

WYOMING: Temperatures below normal. Precipitation generally below normal.

Days suitable for fieldwork 5.0. Topsoil moisture 26% short, 74% adequate. Spring wheat 60% planted, 65% 1987, 65% avg.; 30% emerged, 30% 1987, 30% avg. Oats 55% planted, 50% 1987, 50% avg.; 15% emerged, 25% 1987, 25% avg. Barley 80% planted, 80% 1987, 70% avg.; 55% emerged, 50% 1987, 45% avg. Sugarbeets 90% planted, 90% 1987, 75% avg.; 15% emerged, 25% 1987, 20% avg. Corn 15% planted, 15% 1987, 20% avg. Potatoes 5% planted, 25% 1987, 20% avg. Winter wheat mostly good. Alfalfa prospects good. Livestock mostly good. Spring calves born 90%, 85% 1987, 85% avg. Death losses light to normal. Farm flock: Ewes lambed 85%, 95% 1987, 90% avg.; shorn 80%, 90% 1987, 85% avg. Range flock: Ewes lambed 55%, 60% 1987, 55% avg.; shorn 65%, 70% 1987, 60% avg. Death losses light to normal. Range, pasture mostly fair to good.

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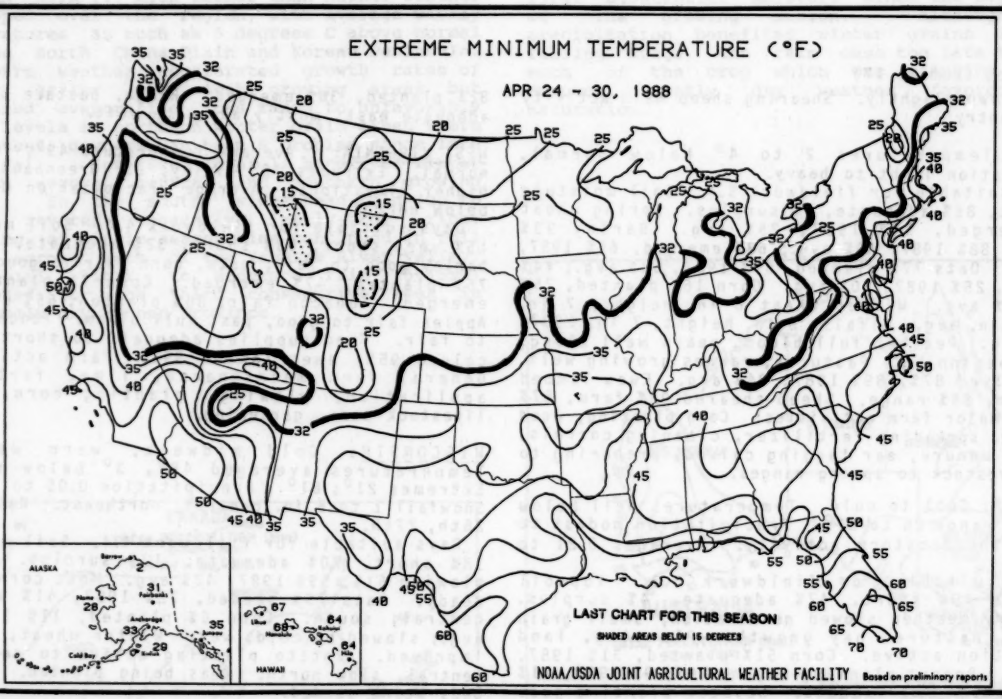

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